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ABSTRACT

This two-part document summarizes and analyzes the implications of a national study of adult literacy in Canada that included home interviews with a representative sample of 13,571 Canadians between the ages of 16 and 69. Part 1 summarizes the study's objectives, methodology, and findings. Among the main findings are the following: (1) 16% of adult Canadians have reading skill limitations that prevent them from facing most of the demands encountered daily; (2) most functionally illiterate Canadians are either persons with limited school attainment or first-generation immigrants; (3) 22% of those surveyed are able to understand simple, well-organized text; and (4) 62% of the 22% of Canadians capable of understanding simple texts have had at least some secondary education. The bibliography contains 18 references. Appended are discussions of the study methodology and interview questions. Part 2 contains the following examinations of the study's findings/implications: "An International Review of the Concepts, Definitions and Measurement Approaches Underlying Literacy Statistics" (Satin); "Literacy and International Competitiveness: The Relevance of Canada's Survey" (Hirsch); "Implications for Adult Education" (Morrison); "Literacy and Health in Canada: Contribution of the Survey of the LSUDA (Literacy Skills Used in Daily Activities)" (Rootman); "Literacy and Old Age in Canada: The Results of the LSUDA Survey" (Ross); "Functional Illiteracy: Economic Costs and Labour Market Implications" (O'Neill, Sharpe); "Workplace Literacy: The Results of the LSUDA Survey" (Hawrysh); "Literacy for Workers: A Labour Perspective on Basic Skills" (MacLeod); "Gender, Nativity, and Literacy: Proficiency and Training Issues" (Boyd); and "Literacy Programming and the Survey of Literacy Skills Used in Daily Activities" (Jones). Sixty-two tables/figures are included. (MN)

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Foreword

Prior to this study, Statistics Canada had no experience in the measurement of literacy skills. With a little innovation, a little luck and advice from a large number of people, our first attempt -- the survey of "Literacy Skills Used in Daily Activities" -- appears to have been a success. The survey has, however, presented us with a problem that more established measures such as the unemployment rate or the consumer price index have already overcome. Not only must we present our findings, we must make the measures understandable to the Canadian public. Our response to this problem may be found in the unusual content of this publication. Along with three chapters of descriptive analyses of the sort normally included in Statistics Canada publications, readers will find ten chapters authored by experts from a wide range of domains. These chapters have been included to give readers a feel for the import of the survey findings in a variety of fields. The authors were asked to act as interpreters offering readers a view of the data cast in their realm of experience. The interpretations of the data and any recommendations offered in this part of the publication are based on analysis and insight of the writer and do not necessarily represent the views of the Government of Canada.

We are especially grateful to Scott Murray and Alvin Satin for their guidance and encouragement not only in writing this paper but during the entire length of the project. Thanks are also due to Cathy Chapman and Tom Brecher of the National Literacy Secretariat and David Neice of the Social Trends Analysis Directorate of the Multiculturalism and Citizenship Canada/Department of Secretary of State for their support. Thanks to Richard Porzuczek, Anna Maneiro, Cindy Sceviour and Yvon Gratton for their contributions at various stages of this work. Finally, we are grateful to the referees for their constructive comments on earlier drafts of this paper.

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Adult Literacy in Canada:

Results of a National Study

Part I

G. Montigny
K. Kelly
S. Jones

Major Findings

Reading Skills:

- **Sixty-two percent of Canadian adults aged 16 to 69 have sufficient reading skills to deal with most everyday reading requirements (level 4). Their skills enable them to acquire further knowledge using printed material.**
- **A further 22% of Canadian adults can use reading materials to carry out simple reading tasks within familiar contexts with materials that are clearly laid out (level 3). Careful document design will often enable level 3 readers to use the text, but carelessly constructed documents will make it difficult for those at this level.**
- **The reading skills of 16% of Canada's adults are too limited to allow them to deal with the majority of written material encountered in everyday life (levels 1 and 2 and persons who did not attempt the test because they reported having no abilities in English or French).**

- **Level of reading proficiency has a strong and positive relationship with level of schooling.**
  - Only 12% of adult Canadians whose educational attainment is limited to elementary schooling or no schooling whatsoever have reading skills necessary to meet daily demands.
  - This figure jumps to 48% for Canadians with some secondary schooling and to 70% for those whose highest level of schooling is secondary school completion.
  - Canadians with university education have the highest percentage of people being categorized at level 4 (89%).

- **Older Canadians are much more likely than younger adults to have literacy problems. Close to 3 out of 4 Canadians aged 16-34 have reading skills sufficient to deal with most everyday reading requirements (level 4). For the 55-69 year old population, this proportion is only 1 in 3.**

- **Among adult Canadians, residents of the western provinces have the highest reading skills.**
  - Newfoundland registers the lowest estimated skill levels. Almost a quarter of its adult population has limited reading skills (levels 1 and 2) and only 39% have skills sufficient to meet most everyday requirements (level 4).
  - Nova Scotia, New Brunswick and Quebec have similar reading skill profiles. Between 15% and 20% of the adult population have limited skills (levels 1 and 2) and close to 57% have level 4 skills.
  - 62% of Ontario's adults and 65% of those of Manitoba have sufficient reading skills (level 4) while at least 69% of adults living in Saskatchewan, Alberta and British Columbia have level 4 skills.

- **Of adults born in Canada, 12% have reading skills assessed at levels 1 and 2 compared to 28% for immigrants.**

- **Among immigrants, reading skills are lowest among those who came to Canada during the last decade, with only 36% of them at level 4 and close to 40% at levels 1 and 2.**

- **The age when one of Canada's official languages was learned plays a key role in the development of reading skills in that language.**
  - Only about 13% of Canadians who reported a mother tongue other than English or French and who started to learn one of the official languages after the age of 15 were classified at level 4.
  - In comparison, 56% of Canadians who reported a mother tongue other than English or French and who started to learn one of the official languages before the age of 16 were classified at level 4.

- **The reading skills of those who undertook the test in French are lower than those who carried them out in English. Seventy percent of those who completed the test in English were classified at level 4, compared to 57% for those who carried out the test in French.**

- **Seventy-one percent of Canadians with an English mother tongue have skills sufficient to meet everyday requirements (level 4) compared to 58% for those with a French mother tongue and 45% for those with a mother tongue other than English or French.**

- **The reading skills of part-year workers (worked less than 40 weeks in the 12 month period preceding the survey) are lower than those assessed for the full-year workers (worked 40 or more weeks). Sixty-five percent of the part-year workers have level 4 reading skills compared to 70% for the full-year workers.**

- **In general, workers in service producing industries (which are more heavily information-oriented than other industries) have higher reading skills.**

  - More than 70% of the workers in industries such as finance, insurance and real estate; community services; services to business; public administration; wholesale trade and transportation have skills sufficient to meet most everyday demands (level 4).

  - At the opposite end, only 50% of the workers in agriculture and the other primary industries (forestry, mining, fishing and trapping) have skills that meet everyday reading demands. Over 20% of workers in these industries have limited reading skills (levels 1 and 2). Lower reading skills are also found in the manufacturing, personal services and construction industries.

- **Less than half the workers in farming and other occupations in the primary sector as well as product fabricating (manufacturing) have level 4 reading skills.**

- **Occupational groups consisting of professional and highly skilled occupations show high reading skills. Eighty-five percent of those in managerial, administrative and related occupations; 86% in natural sciences, engineering and social sciences occupations; and 92% in teaching and related occupations have skills sufficient to meet most everyday reading demands (level 4).**

- **Fifty-four percent of level 1 readers and 82% of level 2 readers report being satisfied with their reading and writing skills.**

- **A larger proportion of immigrants at levels 1 and 2 are dissatisfied with their skills -- 51% and 34% respectively -- compared to 28% and 12% for the Canadian-born population.**

- **Ninety-four percent of Canadian adults feel their reading skills in English or French are adequate for their daily activities.**

- **Respondents with self-perceived inadequate skills (representing about 1.2 million Canadian adults) were asked about their preference for a training instructor.**

  - 48% indicated they would prefer a teacher from a local school or community college

  - 20% would prefer a volunteer or tutor from a local literacy program

  - 13% reported that they would prefer a friend or family member

  - 19% indicated no preference.

- **Only 9% of respondents with self-perceived inadequate skills indicated they are currently taking instruction to improve their reading and writing skills in English or French. A further 53% reported that they might someday take such instruction.**

Numeracy Skills:

- **The majority (62%) of Canadian adults (16-69) have numeracy skills enabling them to deal with printed material requiring a simple sequence of numerical operations (level 3). Skills at this level allow Canadians to meet numeracy demands required in many everyday documents and forms.**

- **Twenty-four percent of Canadian adults do not possess the necessary skills to meet most everyday numeracy requirements but can deal with commonly encountered documents and forms requiring them to perform a simple numerical operation such as addition or subtraction (level 2).**

- **An additional 14% of Canadian adults have limited numeracy skills (level 1). These skills enable them to, at most, locate and recognize numbers in isolation or in a short text. Their skills do not permit them to perform numerical operations consistently.**

- **The numeracy skills of an estimated 5% of the Canadian adult population (820,000 adults) were not assessed and hence are not included in this distribution. Of these, approximately 320,000 adults reported having no skills in either of Canada's official languages and, therefore, did not attempt the test. A further 500,000 adults were screened from taking the main test, which contained the numeracy items, due to their limited literacy skills in English or French.**

- **As with reading skills, numeracy skills are closely linked to the level of schooling of respondents.**

  - Almost half (46%) of Canada's adults with no schooling or elementary schooling only have limited numeracy skills (level 1).

  - While 64% of Canadians whose highest level of schooling is secondary school completion are categorized at numeracy level 3, only 47% of those who have some secondary schooling were classified at that level.

  - Eighty-three percent of those with university education have level 3 skills.

- **Numeracy skills are strongest among adults aged 25-34 -- 69% of them achieved level 3.**

- **Fourteen percent of Canada's young adults (16-24) have limited numeracy abilities (level 1) and a further 30% of them have level 2 skills allowing them to deal with material requiring them to perform a simple numerical operation.**

- **Forty-seven percent of Canadians aged 55-69 have numeracy skills sufficient to meet everyday numeracy demands.**

- **In Ontario and the four western provinces, over 60% of the adult population have numeracy skills to meet most everyday demands (level 3). Alberta (72%) and British Columbia (70%) have the highest percentages of adults with level 3 abilities.**

- **The highest percentages of Canadians with limited functional numeracy skills (level 1) are found in the Atlantic provinces and in Quebec with percentages ranging between 29% (for Newfoundland) and 19% (for Quebec).**

- **Sixty-four percent of those tested in English achieved level 3 (level sufficient to meet most everyday numeracy demands) compared to 53% for those tested in French.**

- **Sixty-three percent of adults born in Canada were categorized at numeracy level 3 compared to 57% for those born outside Canada.**

Writing Skills:

- **Eighty-eight percent of Canadian adults (16-69) can write a simple message (note to a household member to turn on the oven) containing all the information specifically requested in the test question.**

- **Sixty-two percent of Canada's adult population can write a letter requesting the repair of an appliance. The letters written by 47% included all the information specified by the manufacturer while those written by the other 15% partially met the specified content requirements. (The letters written by this latter group included enough information such that the appliance would probably be repaired and returned to them, but some of the information requested by the manufacturer was omitted.)**

- **The writing skills of an estimated 11% of the Canadian adult population (some 2 million adults) are not included in these results. Of these:**

  - **an estimated 320,000 adults reported having no skills in either of Canada's official languages and therefore did not attempt the test**

  - **an estimated 500,000 adults were not asked to complete the writing items because their reading skills in English or French were limited**

  - **an estimated 6% of the population (approximately 1.2 million adults) refused to complete one or both of the writing tasks**

About the Survey:

These results are based on The Survey of Literacy Skills Used in Daily Activities (LSUDA) conducted by Statistics Canada in October 1989 on behalf of the National Literacy Secretariat of Multiculturalism and Citizenship Canada/Department of the Secretary of State. The objective of the survey was to provide a direct assessment of the reading, numeracy and writing skills of Canada's adult population (16-69) in each official language.

The following definition of official language literacy, upon which the skill levels were built, was used in the survey.

> **"The information processing skills necessary to use the printed material commonly encountered at work, at home, and in the community."**

The survey consisted of face-to-face interviews and involved a series of tasks designed to reflect reading, writing and numeracy activities commonly encountered in daily life in Canada. A representative sample of 13,571 persons aged 16-69 across Canada was selected from dwellings that recently participated in the Labour Force Survey (LFS). The overall response rate for the survey was 70% resulting in a database of approximately 9,500 respondents.

The survey employed three questionnaires to profile the characteristics and the literacy skills of Canada's adult population:

- a set of "background" questions gathered information on individual socio-economic characteristics, parental educational achievement, and perceived literacy skills and needs;

- a "screening" questionnaire, with 7 simple tasks, identified individuals with very limited literacy abilities (those who had very low literacy abilities were not asked to respond to the next questionnaire);

- a "main" questionnaire, composed of 37 tasks, measured specific reading, writing and numeracy abilities.

The selection of tasks for the "screening" and "main" questionnaires ensured that a range of abilities was measured. For reading, these abilities ranged from locating a word in a document (for example, locating the expiry date on a driver's licence) to more complex abilities involving the integration of various parts of a document (for example, reading a chart to determine if an employee is eligible for a particular benefit). Numeracy abilities were assessed using such forms as a swimming pool schedule (locating a particular time), a bank deposit slip (addition and subtraction) and a catalogue order form (addition and multiplication). Two writing tasks were included in the assessment: one involved writing a simple message requesting a household member to turn on the oven while the second required respondents to write a letter to a company requesting the repair of an appliance.

1.0 Introduction

1.1 Introductory comments

Most Canadians would agree that literacy is an important, perhaps necessary, skill if one is to participate fully in modern Canadian society. Most, however, would have difficulty agreeing as to just what literacy is. The nature of literacy is complex and refers to both a social phenomenon and a cognitive skill. The social phenomenon highlights the contingent nature of literacy. That is, it recognizes that literacy requirements differ from one society, and one time, to another. The cognitive skill element relates literacy to background factors such as education and life experience. Its contingent nature makes literacy difficult, yet nevertheless important, to assess -- especially in a period of accelerated economic and social change.

Literacy skills are basic and essential tools which enable and enhance communication, understanding and awareness. Life-long learning skills allow individuals not only to develop professional skills but lead to a better understanding of the multiple facets of daily living in a complex environment. Information, especially printed information, plays an important role in many everyday activities such as community involvement, finance, and health and safety.

From a labour force perspective, literacy skills are a prerequisite for meeting the challenge of rapid economic changes that result from the opening of world economies. Important changes to Canadian industrial and occupational structures will require that workers make major adjustments. New technology, new products and new services will echo on all aspects of everyday living. Ability to acquire knowledge from printed material will be required to fully adjust to these changes.

In 1987, the release of results from a survey sponsored by Southam News Co. confirmed (as suspected by specialists) that a considerable number of Canadians, as many as 4.5 million, have some literacy deficiencies in Canada's official languages. This survey was the first direct measure of adult literacy abilities in Canada. By revealing the existence and magnitude of a literacy problem in Canada, the results focused public attention on a complex question and clearly indicated the need for more information to respond to the issue. Governments and educators needed a precise assessment of the actual literacy skills of Canadians to target and promote initiatives for improvement.

In response to this information need, Statistics Canada was commissioned by the National Literacy Secretariat of Multiculturalism and Citizenship Canada/ Department of the Secretary of State to conduct a detailed literacy assessment of the adult population. In October 1989, the Agency conducted the Survey of Literacy Skills Used in Daily Activities (LSUDA). The principal objective of the survey was the development of a detailed literacy profile of Canada's adult population. Specifically, the survey was to provide a direct assessment of the reading, writing and numeracy skills of Canada's adult population in each official language. This assessment was to be completed within various contexts of daily living (for example, at work, at home) and was to be complemented by a self-assessment and perceived needs component. Ultimately, the survey was to provide a national database allowing the detailed analyses of the literacy skills of Canadians, their perceived skills and needs in relation to various socio-economic characteristics.

This report has two distinct parts. The first part presents a general overview of the survey findings. It takes the form of a descriptive analysis and covers a range of information from the national survey. The second part includes analyses by various authors interested in the literacy situation in Canada. These authors are specialists in fields such as health, labour, adult education and literacy. Their analyses provide an interpretation of the survey results from the perspective of their fields.

1.2 Definition of literacy

The task of developing a literacy definition for Canada is particularly difficult due to the multicultural nature of Canadian society. To develop a measure of literacy unique to each Canadian subculture would negate the use of a large scale national survey using a standard set of direct measurement instruments. Yet to ignore the literacy skills of various language groups would oversimplify the study of literacy in Canada.

This dilemma of whether to develop a literacy measure for each subgroup or to create a more standard tool, led to a decision to define literacy, in the present study, in terms of Canada's official languages -- either English or French. Apart from the obvious operational difficulties involved in the development of equivalent measurement tools for various languages, to do so would have violated a basic principle underlying the design of the survey (that is, the survey should be restricted to the

languages used by government to communicate with Canadians). This principle reflects the view that an absence of official language literacy effectively deprives a segment of the population from the benefit of government initiatives based on the printed word, be they health promotion, labour market adjustment or any other area of activity. As a result, the only measures of non-official language literacy for respondents whose first language is neither English nor French is a self-assessment of their literacy proficiency in their first language.

The following definition of official language literacy, adopted in the national survey, highlights crucial aspects of literacy in terms of real life requirements:

> **"The information processing skills necessary to use the printed material commonly encountered at work, at home, and in the community."**

The "information processing skills" refer to reading, writing and numeracy skills. The skills underlying literacy cannot be separated from the context in which they must be applied. That is, the specific literacy skills individuals require in their everyday lives are largely dependent on their occupation, their household activities, and their level of participation in community life. Hence to put literacy skills into context, the three primary "domains" (work, home, and community) in which literacy skills must be applied, were incorporated in the definition. Consideration given to these domains in the selection of measurement tasks ensured that a broad range of literacy demands people commonly encounter in their everyday lives were included.

It was also recognized that the skill that is required in a given situation depends on the type of material to which it must be applied. Thus, a further component of literacy "materials" was built into the proposed framework of this study. Materials refer to the various forms and formats in which information is displayed.

From the definition, skill levels were defined according to the abilities required to accomplish a variety of activities. Each of the broad levels of ability has distinct implications for identifying initiatives needed to deal with the literacy issue (see section 2 for a description of the literacy levels).

1.3 Survey methodology

The survey consisted of face-to-face interviews with individuals in their homes and involved a series of tasks designed to reflect reading, writing and numeracy activities commonly encountered in Canada. A representative sample of 13,571 persons aged 16-69 across Canada was selected from dwellings that had recently participated in the Labour Force Survey (LFS) -- Canada's largest continuing monthly household survey of the general population. The use of LFS respondents was advantageous because individual information (age, educational attainment, etc.) was already available and was used to efficiently tailor the sample to meet the specific survey requirements. In particular, the desire to focus more of the sample on young people and those with low educational attainment was met by using LFS respondents.

Residents of Yukon and the Northwest Territories, members of the Armed Forces, persons living on Indian reserves and inmates of institutions were not included in the sample as these populations are excluded from the coverage of the LFS. These exclusions account for approximately 3% of the Canadian population.

The provincial allocation of the sample and the corresponding sample attained are given in table 1.1. The overall response rate for the survey was 70%, resulting in a database of approximately 9,500 respondents. (Analysis of the nonrespondents to the survey suggest that they are not concentrated in any specific group.)

The survey used three questionnaires to profile the characteristics and the literacy skills of Canada's adult population:

- a set of "background" questions gathered information on individual socio-economic characteristics, parental educational achievement, and perceived literacy skills and needs;
- a "screening" questionnaire, with 7 simple tasks, identified individuals with very limited literacy abilities (those who had very low literacy abilities were not asked to respond to the next questionnaire);
- a "main" questionnaire, with 37 tasks, measured specific reading, writing and numeracy abilities.

Table 1.1

Provincial sample allocation and the corresponding sample attained for the Survey of Literacy Skills Used in Daily Activities (LSUDA)

Province	Sample allocated	Sample attained	Response rate
Newfoundland	600	445	74%
Prince Edward Island	120	95	79%
Nova Scotia	836	611	73%
New Brunswick	1,300	946	73%
Quebec	2,437	1,745	72%
Ontario	3,500	2,257	64%
Manitoba	593	427	72%
Saskatchewan	532	389	73%
Alberta	1,248	862	69%
British Columbia	2,405	1,678	70%
Canada	**13,571**	**9,455**	**70%**

Note: *The samples in Newfoundland, New Brunswick, Ontario and Alberta were augumented by the purchase of additional sample by the provincial governments.*

The selection of tasks for the "screening" and "main" questionnaires ensured that a range of abilities were measured[1]. For reading, these abilities ranged from locating a word or item in a document (for example, locating the expiry date on a driver's licence) to more complex abilities like integrating various parts of a document (for example, reading a chart to determine if an employee is eligible for a particular benefit). Numeracy abilities were assessed using forms such as a swimming pool schedule (locating a particular time), a bank deposit slip (addition and subtraction) and a catalogue order form (addition and multiplication). Two writing tasks were included in the assessment: a simple message requesting a household member to turn on the oven and a letter to a company requesting the repair of an appliance. Further details on the collection methodology (including a more detailed discussion of the selection criteria for the questions) are provided in Appendix I.

[1] *A pretest involving 1,500 respondents was conducted to evaluate the effectiveness of the tasks in measuring specific abilities and to ensure the difficulty levels of the tasks were equivalent in the two official languages.*

2.0 Literacy skill levels

This section describes the literacy skill levels, items that constitute and describe each level, and individuals' abilities at each level. As well, basic survey results at the national level for reading, numeracy and writing skills are discussed. In reading this section, it is important to keep in mind that the levels developed for the survey are simply points along the functional literacy continuum believed to be helpful in understanding the distribution of literacy skills and in identifying the types of programs required to satisfy the literacy needs of Canadians. Details on the theoretical framework for the study (including a discussion of the functional literacy continuum approach) are provided in Appendix II.

A review of previous tests and theoretical work on reading suggested that three key points along the continuum be defined, giving four categories, or levels. For numeracy two key points were identified yielding three levels. Because descriptive titles would detract from the idea that the levels are part of a continuum, levels have been referred to simply as Level 1, Level 2, etc.

It is crucial to note that the points along the continuum were developed prior to item development and served to guide item development (see Appendix II). Thus the LSUDA results do not provide data to discover the points/levels, but rather, data to confirm the model of functional literacy, reflected in the levels that generated the test items. Various technical reports outline how well the results confirm the model.

2.1 Reading levels

In describing each level, the formal definition used in the study is given followed by a discussion of the performance of individuals at that level.

Level 1

Canadians at this level have difficulty dealing with printed materials. They most likely identify themselves as people who cannot read.

Canadians whose reading skills are at level 1 cannot use most printed material. While most of the respondents at this level could sign their name, only 53% could determine which sign (from six possible choices) gave information about what to do in a fire, even though only one sign had the word "fire" on it. Only 16% could determine the correct amount of medicine to give to a child. Sixty percent, though, could match names of common grocery products on a shopping list with the grocery items in an advertisement.

People at this level are unlikely to expect that printed text would be meaningful and they are unlikely to look to text for help. Some at this level may have developed strategies to cope with texts they cannot avoid and which recur frequently in their lives, but they are unable to use these strategies with new texts. It is the inconsistency in performance as much as the low level of performance that characterizes level 1. Thus, those who correctly identified the fire sign, may not have been able to find the grocery items, and vice versa, even though the two items are nearly of the same level of difficulty. Those at level 1 are more inclined to identify themselves as people who cannot read.

Level 2

Canadians at this level can use printed materials for limited purposes only, such as finding a familiar word in a simple text. They would likely recognize themselves as having difficulties with common reading materials.

Level 2 items only require respondents to find words in a text. Thus, level 2 items include identifying which sign is a fire information sign and which items on a shopping list are on sale. In each case, the texts consist solely of words in isolation, in lists. Slightly more complicated level 2 tasks require finding words in the midst of other text (for example, finding what foods are mentioned in a newspaper article).

At this level, Canadians can use text for very limited purposes. They are most successful when they have to do nothing more than find a word in a text, but the text has to be relatively simple. Forty-two percent could not determine the correct medicine dosage for a seven-year-old when they had to find it in the midst of directions for other ages. They were more successful at tasks where the word or words they were searching for were not surrounded by other text. Thus 79% could use an enumeration notice to find out where to vote because the address was in a box by itself; almost 90% could identify products in a grocery ad when each product name was in bold type and set off from the others. These respondents probably can find familiar products by using the labels, but if they have not encountered the word in print, even these tasks may prove difficult.

When respondents at this level had to use the information they had found to make a decision, they had great difficulty doing so. Thus, when they had to use a chart to decide whether a particular sandpaper was appropriate for a particular job (a type of reading task often encountered in work-related reading), only 36% could do the task. Finding information in one text and using it in another seemed particularly difficult for this level. Only 11% could transfer information from a catalogue page to an order form. While level 2 readers might be able to locate particular information on a label or form, they may have difficulty deciding what to do with the information when they find it.

These Canadians can use reading for quite limited purposes, such as finding a word or words. People at this level would probably admit to having reading problems and often face tasks that their very limited reading skills make difficult.

Level 3

Canadians at this level can use reading materials in a variety of situations, provided the material is simple, clearly laid out, and the tasks involved are not too complicated. While these people generally do not see themselves as having significant reading difficulties, they tend to avoid situations requiring reading.

Level 3 items are clearly different from those at level 2. It is no longer sufficient to find a word or group of words. At level 3, it is necessary to combine information from words at various places in a text. For example, an item asking what sandpaper to use for a job required the respondent to locate the grade of sandpaper on one axis of a matrix chart, the job on another axis, and then determine the content of the cell where they intersected. The most difficult level 3 item, finding the correct medicine dosage for a seven year old, illustrates the complexity of what, on the surface, seems to be a relatively simply task. First, one has to find the dosage instructions in the text. Then, one has to find the age and know that "6-8" includes "7". Next one has to match this age with the dosage and know that, in this case, the dosage follows the age. Finally, one has to understand the dosage instructions. Perhaps, after all, this task may cause some people difficulty.

This level is in some ways the most difficult to characterize. Respondents at this level could carry out many reading tasks, but there were also many that they could not do. Tasks where the reader only had to find and match words were quite easy; every one of these tasks was answered correctly by more than 90% of the level 3 respondents (95% could correctly find the grocery items on sale). Tasks that required a simple decision after the information was found presented greater difficulties, but 70% of the level 3 respondents answered all the tasks which required a simple decision.

The tasks that were difficult for respondents at this level used complex materials (such as maps) or required complicated searches of texts. For example, one task required that the reader keep three pieces of information about job benefits in mind while using them to search a chart for a fourth; only 37% of the level 3 respondents could do this. They also had difficulty with tasks when the way to find the information was not immediately obvious. One task asked respondents to determine school hours from a text with several paragraphs and no direct guide to the information; only 35% could do so. The fact that there was no clear answer -- the text simply said to "check with local schools" -- may have added to the difficulty.

When the text is clearly laid out, the task not too complicated, and the text simple and familiar, level 3 respondents succeed. Careful document design often enables level 3 readers to use the text, but carelessly constructed documents make it difficult for those at this level. In other cases, the limited reading skills of level 3 respondents will make it difficult for them to meet the demands of the task. Thus, level 3 readers come face to face with their reading limitations when they must carry out new and unfamiliar tasks. Most have probably found ways to solve reading tasks that they cannot avoid, but the literature suggests that they avoid most situations that might require reading. Because they can succeed at some reading tasks, those at level 3 do not tend to identify themselves as people who have significant reading difficulties and are certain to reject any identification with being "illiterate", functional or otherwise.

Level 4

Canadians at this level meet most everyday reading demands. This is a diverse group which exhibits a wide range of skills.

The development of items that effectively measured differences at this level, within the time available for administering the test, was difficult. Level 4 items require considerable text-searching and interpretations to be made about the text. One item, for example, required respondents to read a lengthy newspaper article and judge the evidence used to support a central claim of the author. Some less difficult level 4 items were based on materials that are unusual or complicated (for example, maps and graphs).

Level 4 readers meet most everyday reading demands. Indeed, it is unlikely that those at this level would think they have any reading problems. The only tasks that pose problems for some level 4 readers are those that require judgements about a piece of reading. When asked to judge the purpose of a newspaper opinion report, over 60% had difficulty. Tasks that had no easily determined single answer also posed difficulties to some. Twenty-four percent had difficulty finding all the apartments in a group of classified ads that met certain requirements. Since readers were not told how many to find (that is, how many ads fit the criteria), it was difficult to know when they had found them all. Thus tasks without clear, simple, correct answers, were the ones some level 4 respondents found difficult. Closed tasks, where it was relatively easy to determine that one had all the information, posed little difficulty for these readers.

Some readers at this level have no problems even with very difficult reading tasks. The time constraints of the test administration (one hour) limited the use of complex texts that may have created difficulties for these readers. It is, of course, true that highly specialized texts requiring considerable background information will pose problems, but they do so because readers lack relevant knowledge, not because they have reading difficulties. Some level 4 readers may have problems with badly written texts; but for many, their reading skills will be strong enough to eventually overcome the text.

Results

The majority (62%) of Canadian adults have sufficient reading skills to deal with most everyday reading requirements (level 4). Their skills enable them to acquire further knowledge using printed material. A further 22% of the adult population can use reading materials to carry out simple reading tasks within familiar contexts with materials that are clearly laid out (level 3). However, this group does not have sufficient skills to cope with more complex reading contexts. The reading skills of 16% of Canada's adults are too limited to deal with the majority of printed material encountered in everyday life. This percentage includes individuals whose abilities are classified at levels 1 (5%) and 2 (9%) and persons who did not attempt the test because they reported having no abilities in English or French (2%). The national results for the reading component are presented in table 2.1.

Thus, while the majority of Canadian adults read at level 4, there are significant numbers at the other levels, particularly level 3. Further discussion of these results can be found in the other sections of this report.

Table 2.1

Percentage distribution of persons aged 16-69 by reading skill level, Canada

	At level	At or below level
Level 1	7%	7%
Level 2	9%	16%
Level 3	22%	38%
Level 4	62%	100%

Source: *Survey of Literacy Skills Used in Daily Activities. Statistics Canada, 1989*

Note: *Persons who reported having no skills in either of Canada's official languages are included in level 1.*

2.2 Numeracy levels

Because the numeracy tasks were intended to simulate ways in which arithmetic operations are used in everyday life, they were embedded in reading tasks. Thus, the numeracy scale is not merely an arithmetic scale. People who have difficulty calculating the cost of two pairs of gloves given the cost of one pair may still know the "two's table". More than multiplication is involved; that is, the numeracy tasks are more than tasks with numbers.

Because so little is known about how reading and numerical operations combine in these tasks, users should exercise more caution in generalizing these results than in the reading results. Nonetheless, a picture of numeracy ability does emerge from this study. The following section presents the basis for the scale, and data that should help users interpret the scale.

Level 1

Canadians at this level have very limited numeracy abilities which enable them to, at most, locate and recognize numbers in isolation or in a short text.

At this lowest level, a level representing some 14% of the respondents, numeracy skills are restricted to tasks that require recognizing numbers. The simplest numeracy task, one answered correctly by 90% of all respondents, was simply to match numbers representing times from a schedule for a public swimming pool. However, 30% of the respondents at the lowest level could not do this simple task. When a numeracy task required more than simply recognizing numbers in text, Level 1 respondents had great difficulties. For example, one of the questions asked respondents to fill out a deposit slip. As part of this task, respondents were to write $100 on the line for "cash received". Only 6% of the level 1 respondents had no difficulty with the task.

Level 2

Canadians at this level can deal with material requiring them to perform a simple numerical operation such as addition and subtraction.

Tasks requiring only simple addition and subtraction were well within the abilities of level 2 respondents. At this level, 92% could subtract $100 for cash received in the bank deposit slip question. A more difficult level 2 task asked respondents to determine which of three packaged meats was the least expensive per kilogram (the labels specified cost per kilogram so no calculation was required). Twenty-nine percent of those at level 2 did not make the correct choice. The actual arithmetic was not difficult, but the task was not explicitly stated as it had been in the deposit slip task. Creating a task definition as well as doing the calculation made this question more difficult.

Level 3

Canadians at this level can deal with material requiring them to perform simple sequences of numerical operations which enable them to meet most everyday demands.

Tasks at this level had inherently less explicit instructions and required a sequence of numerical operations. For example, the order form used in one of the level 3 tasks -- an order form taken directly from a catalogue in wide circulation in Canada -- had a line labelled "10% shipping charge". To do the task, respondents had to understand that the subtotal on the line above had to be multiplied by 0.1 and the result written on the shipping charge line. Certainly, if the test had simply asked people to multiply 73.70 by 0.1, there would have been many more correct answers. In the real-life context, however, only 70% of all the respondents entered 7.37 on the line. Only 44% of the level 2 respondents answered this correctly, but 93% of those at level 3 had the right amount. Other level 3 items (such as finding the cost of two pairs of gloves when the catalogue gave only the price per pair and calculating the cost of two kilograms of ground beef given the price of one kilogram), also involved rather simple multiplication. However, for these tasks the respondent had to first determine what calculation was required and then perform it. The percentages of correct responses to these items were similar to the shipping charge item:

2 gloves	Level 3:	92%
	Level 2:	45%
2 kilograms	Level 3:	90%
	Level 2:	53%

Again, it is unwarranted to conclude that many adult Canadians are unable to perform numerical operations (add, subtract, and multiply) because they were asked to do more than this. We can say that some adult Canadians have difficulty determining when and what to add, subtract, and multiply.

Results

The majority (62%) of Canada's adult population (aged 16-69) have numeracy skills sufficient to handle the numerical tasks normally encountered in everyday life. These skills enable them to deal with printed material requiring a simple sequence of numerical operations (level 3). Skills at this level are adequate to meet the numeracy requirements of most everyday documents and forms.

Twenty-four percent of Canadian adults do not possess the necessary skills to meet most everyday numeracy requirements but can deal with commonly encountered documents and forms requiring them to perform a simple numerical operation such as addition or subtraction (level 2).

An additional 14% of Canadian adults have limited numeracy skills (level 1). These skills enable them to, at most, locate and recognize numbers in isolation or in a short text. Their skills do not permit them to perform numerical operations consistently.

The numeracy skills of an estimated 5% of the Canadian adult population (820,000 adults) were not assessed and hence are not included in this distribution. Of these, approximately 320,000 adults reported having no skills in either of Canada's official languages and, therefore, did not attempt the test. A further 500,000 adults were not asked to take the main test, which contained the numeracy items, due to their limited reading skills in English or French. The reading skills of this sub-group would likely limit their ability to understand the information needed to carry out the numeracy tasks. The national results for the numeracy component are presented in table 2.2.

Table 2.2

Percentage distribution of persons aged 16-69 by numeracy skill level, Canada

	At level	At or below level
Level 1	14%	14%
Level 2	25%	39%
Level 3	62%	100%

Source: *Survey of Literacy Skills Used in Daily Activites, Statistics Canada, 1989*

Note: *Excludes persons who reported having no skills in either of Canada's official languages and persons whose reading skills were too limited to undertake the main test items*

2.3 Writing results

Because so little is known about the dimensions of everyday writing, the development of a continuum with a set of levels proved difficult. Further, the interview time only permitted the inclusion of two writing items[2], too few to justify a scale. Thus, the writing results must be regarded as tentative. Their principal effect ought to be to encourage researchers to look more closely at everyday writing.

Both writing tasks included in the study asked respondents to read instructions describing a situation and then to write text conforming to specific content requirements. The tasks were scored in terms of information content only. Errors of grammar, spelling and style were not considered in the scoring. One of the tasks was intended to represent a writing counterpart to the key word items in the reading component. Respondents were asked to complete a note giving instructions to a member of the household to turn on the oven at a particular time and to a particular temperature. The task was, in fact, quite easy. Eighty-eight percent of the respondents who undertook this task were able to complete it satisfactorily.

The second writing task was constructed to be more difficult. It required fitting several pieces of information into a letter to accompany the return of a small appliance for repairs. Sixty-two percent of respondents attempting this task were able to compose a letter that was judged to convey enough information for the repair depot to fix the appliance. The letters written by 47% included all the information specified by the manufacturer. Another 15% partially met the specified content requirements so that an experienced repair person could understand the problem and determine the appropriate repair from the letter.

However, 11% of the respondents (representing around 2 million adults) did not attempt to answer one or both questions. Some 320,000 adults were excluded because they lacked sufficient language skills to undertake any part of the test. Another 500,000 adults were not asked to take the main test due to their limited reading skills in English or French. A further 1.2 million adults declined to complete one or both of the writing tasks. It is not known, of course, whether they declined because they felt they would fail or for some other reason. It is worth noting that more respondents refused to do the writing items than any other item on the test.

There is obviously much more work to be done in terms of the measurement of writing skills. There are clear indications that Canadians have some difficulty with everyday writing. Neither task was particularly demanding, but many respondents did have difficulty.

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[2] *Writing items take much longer to complete than reading and numeracy items.*

3.0 Literacy skill levels: a look at the differences among Canadians

Section 2 presented a global picture of the literacy skills of Canadians with basic survey results at the national level for reading, writing and numeracy being discussed. In this section the skills of Canadians are examined more closely by characterizing literacy levels using two key variables -- education and age. Literacy performance by province and community size is also discussed, and inter-provincial differences using data standardized for age and education are explored. Data for the reading and numeracy components of literacy are presented.

3.1 Literacy skills by level of schooling

Prior to the recent initiation of direct literacy assessment, literacy statistics in Canada were based on indirect measures with educational attainment being the most widely used proxy measure. Few would argue that literacy skill development is a complex process with a large number of factors (encompassing early childhood reading patterns, home and work environments, leisure time activities, level of education) interacting in complicated patterns to shape an individual's literacy proficiency. It is recognized, however, that educational attainment plays a particularly determining role in skill development. Tables 3.1 and 3.2 present the distribution of skills by education level for reading and numeracy ability respectively.

As expected, level of proficiency across both components has a strong and positive relationship with level of schooling. Literacy problems are most heavily concentrated among adult Canadians whose educational attainment is limited to elementary schooling or to no schooling whatsoever. Note that only 12% of such Canadians have reading skills sufficient to meet most everyday reading requirements (level 4). This figure jumps to 48% for Canadians with some secondary schooling and to 70% for those whose highest level of schooling is secondary school completion. Not surprisingly, Canadians with university education had the largest percentage of people at level 4 (89%). Although the relationship to educational attainment is not as great for numeracy, the pattern exists for this component as well. While only 22% of Canadians with elementary schooling or no schooling are at the top numeracy level, the percentage increases to 47% for those with some secondary, 64% for Canadians whose highest level of schooling is secondary school completion and 83% for those with university education.

Secondary school completion plays a key role in literacy skill development. Only 8% of Canadians who reported their highest level of schooling as high school completion have limited reading abilities (levels 1 and 2) and 10% of Canadians in this educational group have limited numeracy abilities (level 1). These percentages are even smaller for Canadians with postsecondary education.

Table 3.1

Percentage distribution of adults aged 16-69 by highest level of schooling showing reading skill level, Canada

	Population (thousands)	Reading skills			
		Level 1	Level 2	Level 3	Level 4
Canada*	**17,705**	**5%**	**10%**	**22%**	**63%**
No schooling or elementary	1,818	27%	33%	28%	12%(Q)
Some secondary	4,427	3%(Q)	13%	35%	48%
Secondary completed	4,181	(1)	6%(Q)	22%	70%
Trade School	1,133	(1)	(1)	25%(Q)	63%
Community College	2,458	(1)	(1)	15%(Q)	81%
University	3,456	(1)	(1)	8%(Q)	89%

Source: *Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989.*
Note: *Excludes persons who reported having no skills in either of Canada's official languages.*
* *Total includes "Not Stated" level of schooling.*
(Q) Users are cautioned that the sampling variability associated with this estimate is high.
(1) The sampling variability associated with this estimate is too high for estimate to be released.

Table 3.2

Percentage distribution of adults aged 16-69 by highest level of schooling showing numeracy skill level, Canada

	Population (thousands)	Numeracy skills		
		Level 1	Level 2	Level 3
Canada*	**17,206**	**14%**	**25%**	**62%**
No schooling or elementary	1,518	46%	32%(Q)	22%(Q)
Some secondary	4,363	20%	33%	47%
Secondary completed	4,123	10%(Q)	26%	64%
Trade school	1,095	(1)	23%(Q)	65%
Community College	2,446	(1)	19%	76%
University	3,451	(1)	14%(Q)	83%

Source: *Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989*

Note: *Excludes persons who reported having no skills in either of Canada's official languages and persons whose reading skills were too limited to undertake the main test items*

* *Total includes "Not Stated" level of schooling*

(Q) Users are cautioned that the sampling variability associated with this estimate is high

(1) The sampling variability associated with this estimate is too high for estimate to be released

There is comfort in the fact that more than the majority of Canadians who completed high school have reading skills sufficient to meet most everyday reading demands. However, about 22% of those whose highest level of schooling is high school completion are categorized at level 3 and while Canadians at this level can use reading materials in a variety of situations (depending on the complexity of the task and the text), these individuals are at risk of losing their abilities. Level 3 readers tend to avoid situations that require reading and few take steps to improve their skills. Therefore the retention of their acquired skills is difficult. Similar results are observed for numeracy. About one in three adult Canadians whose highest level of schooling is high school completion do not have the numeracy skills necessary to perform most everyday numeracy tasks.

3.2 Literacy skills by age group

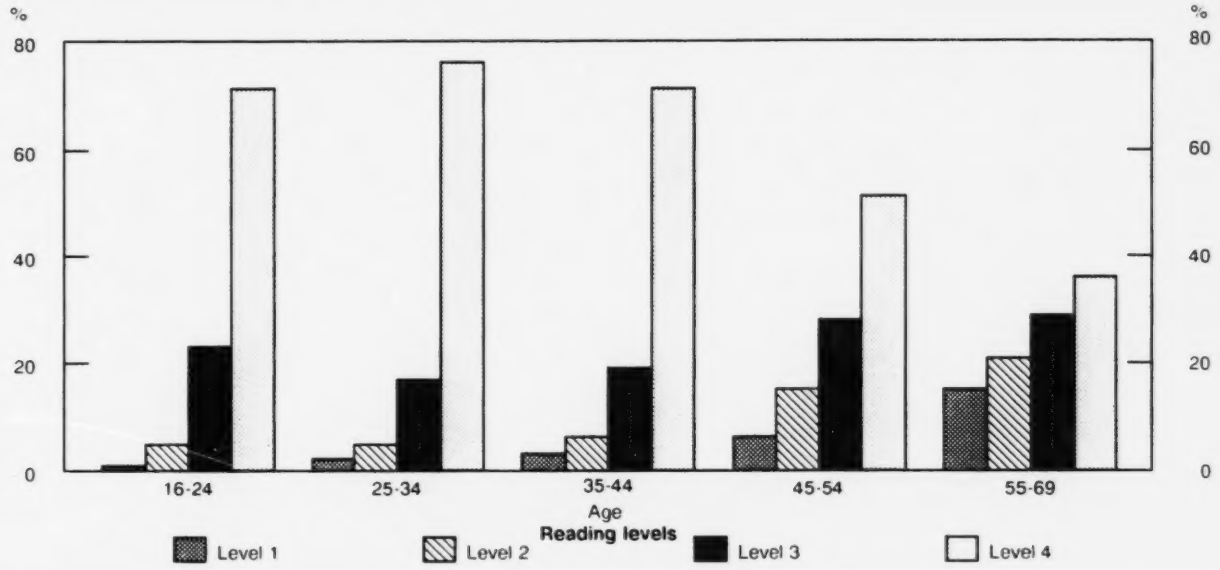
The strong relationship between level of schooling and literacy proficiency is also apparent in the comparison of skills between age groups. Older Canadians are much more likely than younger adults to have literacy problems. The experiences of older Canadians in terms of the labour market conditions they faced (nature of job, war, the depression), and the sources of financial support for education undoubtedly contributed to their lower levels of proficiency. The percentage of Canadians aged 55-69 with no schooling or whose schooling is limited to some secondary or elementary is well above the national figure -- 56% compared to 34% for 16-69 year olds.

Literacy results by age group are presented in charts 3.1 and 3.2. Note that while the incidence of level 1 and 2 readers (those with skills too limited to deal with everyday reading demands) ranges from 6% to 9% for the three youngest age groups, it rises for the next two age groups from 21% among persons aged 45-54, to 36% among persons aged 55-69. This translates into over 1 million Canadians in the 55-69 age group who have trouble reading such material as labels on medicine bottles or using the yellow pages. The numeracy results show a similar pattern. About 25% of Canadians in the oldest age group have limited numeracy abilities (level 1) compared to the national figure of 14%.

The small percentage of Canadians aged 16-24 at the lowest levels of reading proficiency (levels 1 and 2) looks encouraging and supports the contention that severe literacy problems will diminish with time as the Canadian population ages. And yet, the current school-leaver rate could be as high as 30%. This situation is further complicated by the fact that the literacy demands placed on individuals by society and the labour market are likely to increase over time.

Chart 3.1

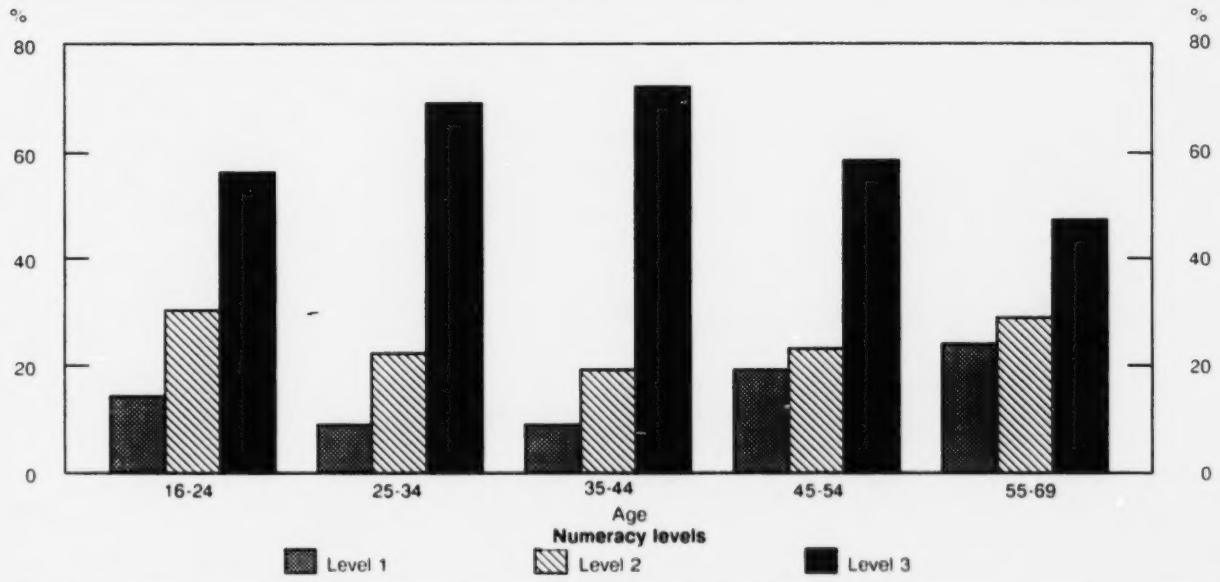
Reading level by age group, Canadians aged 16-69



Note: *Excludes persons who reported having no skills in either of Canada's official languages.*

Chart 3.2

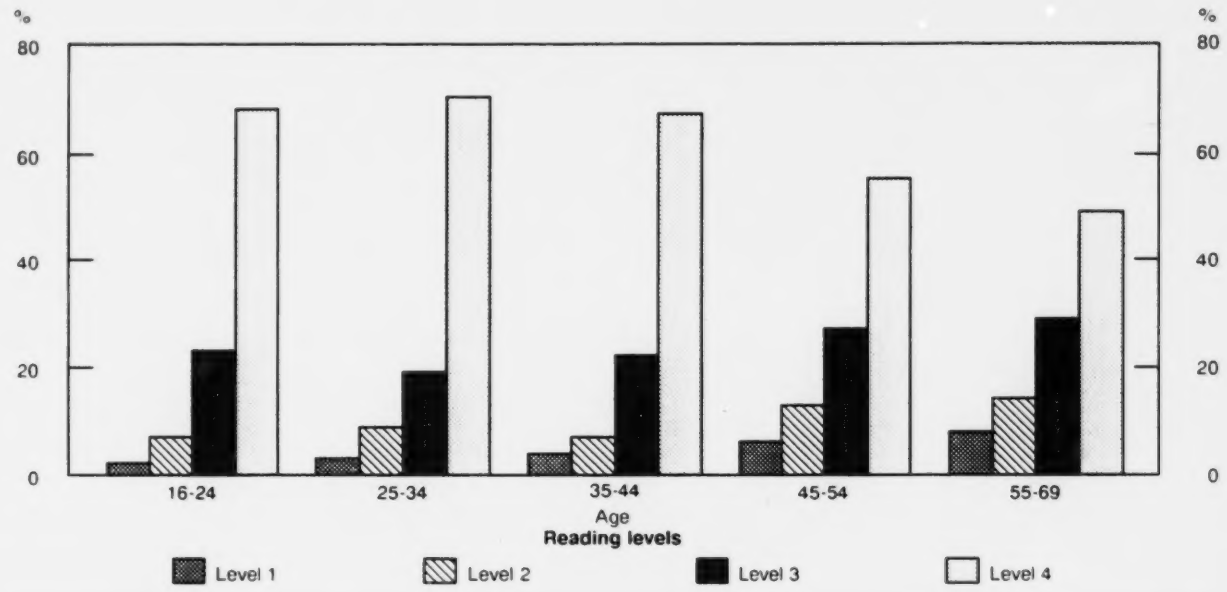
Numeracy level by age group, Canadians aged 16-69



Source: *Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989.*
Note: *Excludes persons who reported having no skills in either of Canada's official languages and persons whose reading skills were too limited to undertake the main test items.*

Chart 3.3

Reading level by age group standardized for education, Canadians aged 16-69



Source: *Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989.*
Note: *Excludes persons who reported having no skills in either of Canada's official languages.*

A comparison of the performance of those aged 16-24 with those aged 25-34 also gives rise to questions. Canadians aged 25 to 34 have somewhat stronger abilities for both the reading and numeracy components. This may, in part, result from the younger age group having had a more limited exposure to everyday forms and documents. Many of them, for example, have not yet completed their schooling. It will be particularly important to monitor the skills of this group over the next few years, looking for an upward shift in the percentage at the top level as this group completes its education and has more exposure to everyday printed materials.

Chart 3.3 shows the reading results by age group standardized for education[3]. Not surprisingly, removing the effect of education changes the distribution of the oldest age group most dramatically. The percentage with limited reading skills (levels 1 and 2) in this age group is reduced from 36% to 22% while the level with skills sufficient to meet most everyday demands (level 4) is increased from 36% to 49%. Standardizing for education also narrows the gap between the three youngest age groups.

Although removing the effect of education reduces the differences in performance among the age groups, the skill levels of the two oldest groups, are still significantly lower than those of the other age groups, confirming that other factors do play a role in skill development and retention. In Section 4 other variables including labour force status and occupation are related to literacy proficiency.

[3] *Standardization is a procedure of rate adjustment to eliminate the effect of differences in population composition with respect to explanatory variables (such as education and age). The adjusted rates are useful for comparison purposes only.*

3.3 Literacy skills by province

Tables 3.3 and 3.4 show that among adult Canadians, residents of the four western provinces generally have the highest reading and numeracy skills. The incidence of low literacy proficiency does, in fact, vary by province and is highest in Quebec and in the Atlantic provinces. Newfoundland, with 24% of its adult population at reading levels 1 and 2 and 29% at numeracy level 1, registers the lowest estimated skill levels. Nova Scotia, New Brunswick and Quebec have similar reading and numeracy profiles -- around 56% of adults having reading skills sufficient to meet most everyday demands and 54% having numeracy skills enabling them to deal with common numeracy tasks.

Table 3.3

Percentage distribution of adults aged 16-69 by reading skill level, Canada and provinces

	Population (thousands)	Reading skills			
		Level 1	Level 2	Level 3	Level 4
Canada	**18,024**	**7%**	**9%**	**22%**	**62%**
Newfoundland	384	7%	17%	36%	39%
Prince Edward Island	85	(1)	(1)	(1)	(1)
Nova Scotia	594	5%(Q)	10%	28%	57%
New Brunswick	483	6%	12%	26%	56%
Quebec	4,721	6%	13%	25%	57%
Ontario	6,689	9%	8%	21%	62%
Manitoba	703	5%(Q)	7%(Q)	23%	65%
Saskatchewan	632	3%(Q)	5%(Q)	19%	72%
Alberta	1,649	5%(Q)	7%(Q)	17%	71%
British Columbia	2,084	5%	7%	19%	69%

Source: *Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989*
Note: *Persons who reported having no skills in either of Canada's official languages are included in level 1*
(Q) Users are cautioned that the sampling variability associated with this estimate is high
(1) The sampling variability associated with this estimate is too high for estimate to be released

Table 3.4

Percentage distribution of adults aged 16-69 by numeracy skill level, Canada and provinces

	Population (thousands)	Numeracy skills		
		Level 1	Level 2	Level 3
Canada	**17,206**	**14%**	**25%**	**62%**
Newfoundland	369	29%	26%	45%
Prince Edward Island	79	(1)	(1)	(1)
Nova Scotia	581	21%	23%	56%
New Brunswick	468	22%	24%	54%
Quebec	4,577	19%	27%	54%
Ontario	6,228	11%	25%	64%
Manitoba	678	13%(Q)	26%	61%
Saskatchewan	620	9%(Q)	26%	66%
Alberta	1,589	8%(Q)	20%	72%
British Columbia	2,015	9%	22%	69%

Source: *Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989*
Note: *Excludes persons who reported having no skills in either of Canada's official languages and persons whose reading skills were too limited to undertake the main test items*
(Q) Users are cautioned that the sampling variability associated with this estimate is high
(1) The sampling variability associated with this estimate is too high for estimate to be released

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Note that in table 3.3 (reading skills by province) persons who reported having no skills in either of Canada's official languages are included in level 1. This increases the percentage of level 1 readers in provinces that have higher proportions of immigrants. Removing persons with language problems from the overall distribution changes the reading profile for Ontario as follows: the level 1 percentage drops from 9% to 6%, level 2 remains at 8%, level 3 increases from 21% to 22% and level 4 increases from 62% to 65%. Excluding those with language problems also reduces the number of level 1 readers in British Columbia from 5% to around 3% and increases the level 4 percentage from 69% to 70%. Reading skill distributions excluding persons who reported having no skills in either of Canada's official languages are presented in table 3.5.

Table 3.5 also shows the reading results by province standardized for age and education. The only province in which the distribution is appreciably affected by the standardization is Newfoundland, where the level 4 percentage is increased from 39% to 45%. The trend of the highest skills in the western provinces is preserved and the skill levels of Canadians living in Quebec and Atlantic Canada are still below the national figures.

Table 3.5

Percentage distribution of adults aged 16-69 by reading skill level, Canada and provinces. Rates standardized for age and education are also presented

	Reading skills			
	Level 1	Level 2	Level 3	Level 4
Canada	5%	10%	22%	63%
Newfoundland	7%	17%	36%	39%
Standardized	8%	15%	32%	45%
Prince Edward Island	(1)	(1)	(1)	(1)
Nova Scotia	4%(Q)	11%	28%	57%
Standardized	4%(Q)	11%	28%	57%
New Brunswick	6%	12%	26%	56%
Standardized	5%	11%	25%	58%
Quebec	5%	13%	25%	57%
Standardized	4%	12%	24%	60%
Ontario	6%	8%	22%	65%
Standardized	6%	9%	22%	63%
Manitoba	5%(Q)	7%(Q)	23%	65%
Standardized	4%(Q)	7%(Q)	22%	67%
Saskatchewan	2%(Q)	5%(Q)	19%	73%
Standardized	3%(Q)	5%(Q)	17%	75%
Alberta	4%(Q)	7%(Q)	18%	71%
Standardized	5%(Q)	8%(Q)	19%	68%
British Columbia	3%	7%	19%	70%
Standardized	4%	8%	20%	68%

Source: *Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989*
Note: *Excludes persons who reported having no skills in either of Canada's official languages*
(Q) Users are cautioned that the sampling variability associated with this estimate is high
(1) The sampling variability associated with this estimate is too high for estimate to be released

3.4 Literacy skills by community size

Tables 3.6 and 3.7 show skill distributions by community size for reading and numeracy skills respectively. The literacy skills of those living in rural areas are weakest for both components. This is not surprising given that adult Canadians (16-69) in rural areas tend to have lower levels of schooling (49% have not completed secondary school compared to 35% nationally). However, for planning and placing skill improvement programs, it should be remembered that while the highest percentages of Canadians with low literacy abilities are found in the rural areas (17% have limited reading abilities (levels 1 and 2) and 18% are at numeracy level 1), less than 20% of the Canadian population live in such areas. Since 48% of Canadians live in urban centres of 500,000 or more, the greatest number of Canadians with literacy problems live in larger urban centres.

Canadians living in urban centres of 100,000-499,999 have the highest literacy skills -- 71% are at the top level for reading and 66% have numeracy skills sufficient to meet most everyday demands (level 3). Skill levels differ between the two largest urban size groups partly because more immigrants live in the centres of 500,000 or more. Immigrants represent about 25% of the population living in such centres, compared to 15% for centres of 100,000-499,999.

Table 3.6

Percentage distribution of adults aged 16-69 by community size showing reading skill level, Canada

	Population (thousands)	Reading skills			
		Level 1	Level 2	Level 3	Level 4
Canada	**17,705**	**5%**	**10%**	**22%**	**63%**
Urban 500,000 or over	8,169	6%	9%	21%	64%
Urban 100,000-499,999	2,566	3%(Q)	6%	19%	71%
Urban 15,000-99,999	2,375	4%(Q)	10%	24%	63%
Urban less than 15,000	1,503	5%(Q)	9%(Q)	25%	60%
Rural areas	3,093	4%(Q)	13%	27%	57%

Source: *Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989*
Note: *Excludes persons who reported having no skills in either of Canada's official languages*
(Q) Users are cautioned that the sampling variability associated with this estimate is high

Table 3.7

Percentage distribution of adults aged 16-69 by community size showing numeracy skill level, Canada

	Population (thousands)	Numeracy skills		
		Level 1	Level 2	Level 3
Canada	**17,206**	**14%**	**25%**	**62%**
Urban 500,000 or over	7,866	13%	23%	64%
Urban 100,000-499,999	2,514	10%	24%	66%
Urban 15,000-99,999	2,336	15%	25%	60%
Urban less than 15,000	1,465	16%	26%	58%
Rural areas	3,025	18%	27%	55%

Source: *Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989*
Note: *Excludes persons who reported having no skills in either of Canada's official languages and persons whose reading skills were too limited to undertake the main test items*

The reading profiles of Canada's three largest census metropolitan areas (Toronto, Montreal and Vancouver) are presented in table 3.8. In keeping with the trend that western Canadians have the highest reading skills, Vancouver registers a higher percentage of level 4 readers (70%) than both Toronto (55%) and Montreal (60%). Although the gap in these level 4 percentages is narrowed when the effects of age and education are removed, the trend is preserved. The pattern also holds when the Canadian-born population is analyzed separately. The level 4 percentage in Vancouver for this group is 76% compared to 68% for Toronto and 66% for Montreal. (Note that in this table persons who reported having no skills in either English or French are included in level 1.)

Table 3.8

Percentage distribution of adults aged 16-69 showing reading skill level, Toronto, Montreal and Vancouver

	Population (thousands)	Reading skills		
		Levels 1 & 2	Level 3	Level 4
Toronto	2,510	25%	20%	55%
Born in Canada	1,388	9%(Q)	23%	68%
Montreal	2,144	18%	22%	60%
Born in Canada	1,718	13%	21%	66%
Vancouver	1,049	12%	18%	70%
Born in Canada	679	(1)	17%(Q)	76%

Source: *Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989.*
Note: *Persons who reported having no skills in either of Canada's official languages are included in level 1.*
(Q) Users are cautioned that the sampling variability associated with this estimate is high.
(1) The sampling variability associated with this estimate is too high for estimate to be released.

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4.0 Reading skills of adult Canadians by selected characteristics

While educational attainment is closely linked to literacy, not all older Canadians with low educational attainment have limited literacy skills. Similarly, not all younger Canadians with higher levels of schooling had, at the time of the survey, acquired literacy skills sufficient to meet most everyday demands. Other factors influence the acquisition and retention of literacy skills in one of Canada's official languages. For instance, a first language other than English or French and the age when one of Canada's official languages was learned may affect the acquisition of literacy skills. Similarly, the family, cultural and community environment, as well as occupation and work experiences, may influence the variety of reading material encountered everyday and affect functional reading skills over time.

This section profiles the reading skills of Canada's adult population by a variety of related characteristics. The section's main objective is to clarify further the nature and extent of the literacy skills of Canadians according to various socio-demographic characteristics. It will complement the earlier analysis based on schooling and age and provide useful data to guide further research.

The section has two main components. Firstly, the analysis focuses on background characteristics such as mother tongue, migration status, labour market activity and occupation by reading skill levels. The second component compares self-assessed literacy skills to directly-measured literacy skills. This second component also examines the perceived needs of Canadians with self-evaluated skill inadequacies and their choices with regard to future training.

4.1 Background characteristics

4.1.1 Migration status

Aside from schooling, a key factor related to literacy skills in Canada's official languages is the extent of knowledge of and exposure to English or French printed material. Two percent of Canada's adult population reported having no knowledge of English or French. A much larger share of adults aged 16-69 in Canada have, to varying degrees, limited abilities in English or French. More than a million adult Canadians (6%) reported a main language (that is, the language in which they are most at ease) other than English or French. While all respondents had the choice between English or French for completing the test items, many would have elected for a non-official language had that choice been offered. Recent immigrants or persons who learned English or French only recently are undoubtedly disadvantaged by a limited knowledge of an official language and their lack of familiarity with certain types of documents encountered in Canada.

In total, 18% of adults in Canada were born outside the country and significant differences are observed when their reading skill profiles are compared to the Canadian-born population (chart 4.1). The main differences in the reading skill profiles are concentrated at the two lowest levels (12% of adults born in Canada had skills assessed at levels 1 and 2, compared to 28% for immigrants). Most importantly, the widest gap is at level 1 (3% compared to 14%). Level 1 encompasses persons with very limited reading skills generally associated with little or no schooling or, more frequently, with a poor knowledge of English or French. About 13% of immigrants reported their highest level of schooling as "no schooling or elementary schooling only" compared to 10% for adults born in Canada. However, 60% of the immigrants had a mother tongue other than English or French compared to 6% for Canadian-born adults.

As illustrated in table 4.1, the comparison of the reading skills by mother tongue[4] reveals the importance of this variable for immigrants. Again the largest difference in percentages are noted at level 1. Sixteen percent of Canadians with a mother tongue other than English or French are at that level compared to 2% for those with English as their first language and 4% for those with French as their mother tongue. Only 45% of Canadians with a mother tongue other than English or French achieved level 4.

The gap is even wider if the comparison of the reading skill profiles between Canadian-born and immigrants is restricted to those who reported a non-official language as their mother tongue. Only 36% of immigrants who reported a mother tongue other than English or French had assessed abilities allowing them to deal with most Canadian everyday materials (level 4). Twenty-two percent of such immigrants were classified at level 1.

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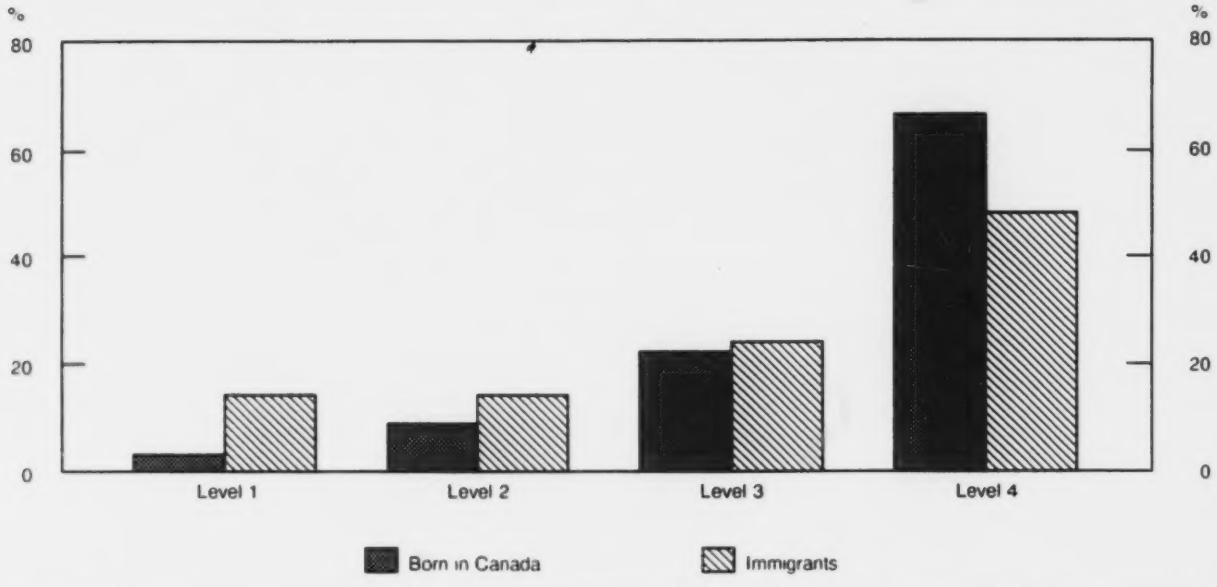
[4] *'Mother tongue' in this chapter includes multiple responses. In the survey, 1% of the adult population reported more than one first language. The total of single and multiple responses will be greater than the total population because multiple responses are included in each group.*

Chart 4.1

Reading level by migration status, Canadians aged 16-69



Source: *Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989.*
Note: *Excludes persons who reported having no skills in either of Canada's official languages.*

Table 4.1

Percentage distribution of adults aged 16-69 by mother tongue showing reading skill level, Canada

	Population (thousands)	Reading level			
		Level 1	Level 2	Level 3	Level 4
Canada total*	**17,705**	**5%**	**10%**	**22%**	**63%**
English**	10,247	2%	7%	21%	71%
French	4,475	4%(Q)	13%	25%	58%
Other	2,875	16%	15%	25%	45%
Born in Canada	966	(1)	11%(Q)	24%	62%
Immigrants	1,909	22%	17%	25%	36%

Source: *Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989*
Note: *Excludes persons who reported having no skills in either of Canada's official languages*
* *Total includes "Not Stated" mother tongue*
** *Multiple responses are included in each category reported*
(1) The sampling variability associated with this estimate is too high for the estimate to be released
(Q) Users are cautioned that the sampling variability associated with this estimate is high

Almost 1 million adults born in Canada reported a mother tongue other than English or French. Their reading skill profile is, however, similar to the overall adult Canadian population profile, suggesting that length and variety of exposure to printed material in English or French, especially through formal education, are also essential for acquiring reading skills. The age when one of Canada's official languages is learned and the length of residency in Canada are two variables that proxy for exposure to everyday printed material in French or English.

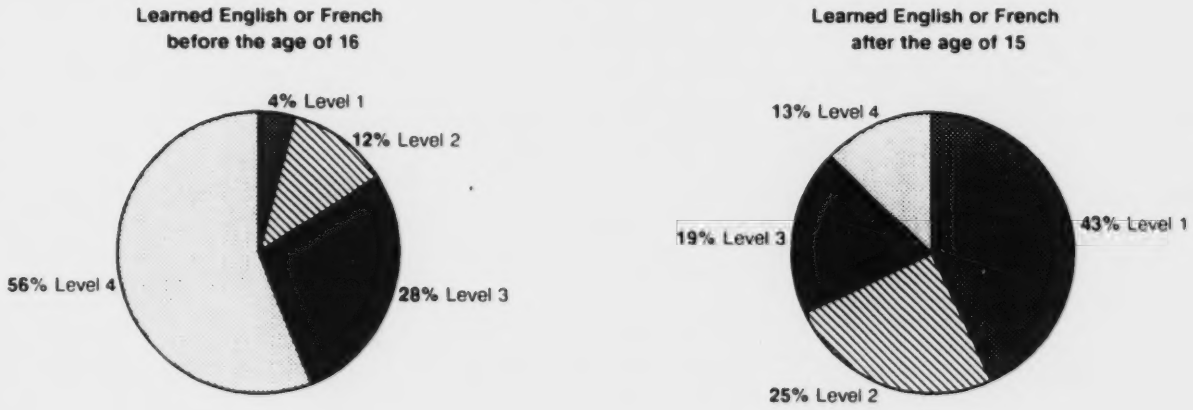
Chart 4.2 illustrates the key role that the age when one of Canada's official language is learned plays in the development of reading skills in that official language. Only about 13% of Canadians who reported a mother tongue other than English or French and who started to learn one of the official languages after the age of 15 were classified at level 4. Among Canadians who likely received their primary and secondary education in some language other than English or French, 43% had virtually no reading abilities in either of Canada's official languages (level 1 reading) while 25% had only key word or equivalent reading abilities (level 2). In comparison, only 4% of Canadians who reported a mother tongue other than English or French and who learned one of the official languages before the age of 16 were classified at level 1 and 12% at level 2.

Almost all Canadians who started to learn English or French after the age of 16 are immigrants who moved to Canada as adults. They represent 24% of Canada's total immigrant population and 4% of the adult population aged 16 to 69. Immigrants who reported English or French as their first language have slightly higher reading skill profiles than the overall adult population (table 4.2). Sixty-seven percent of immigrants with English or French as a mother tongue were categorized at level 4 compared to 63% for the overall population and 48% for the general immigrant population.

While mother tongue and age when one of the official languages was learned are clearly related to reading skill development, the influence of the length of residency in Canada on the evolution of the reading skills of immigrants is much more difficult to assess. The schooling of immigrants and the age at immigration are also dominant factors in acquiring reading skills. Table 4.3 examines the reading skills profiles of immigrants by period of immigration.

Chart 4.2

Reading level by age when started learning English or French, Canadians aged 16-69 with mother tongue other than English or French


Learned English or French before the age of 16
4% Level 1
12% Level 2
28% Level 3
56% Level 4
Learned English or French after the age of 15
13% Level 4
43% Level 1
19% Level 3
25% Level 2

Source: Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989.
Note: Excludes persons who reported having no skills in either of Canada's official languages.

Table 4.2

Percentage distribution of adults born outside Canada (aged 16-69) by reading skill level, Canada

	Population (thousands)	Reading level			
		Level 1	Level 2	Level 3	Level 4
All adults born outside Canada	3,177	14%(Q)	14%(Q)	24%	48%
Adults born outside Canada with English or French mother tongue	1,301	(1)	9%(Q)	22%	67%

Source: *Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989*
Note: *Excludes persons who reported having no skills in either of Canada's official languages*
(1) The sampling variability associated with this estimate is too high for the estimate to be released
(Q) Users are cautioned that the sampling variability associated with this estimate is high

Table 4.3

Percentage distribution of adults born outside Canada (aged 16-69) by period of immigration showing reading skill level, Canada

	Population (thousands)	Reading level			
		Level 1	Level 2	Level 3	Level 4
All adults born outside Canada*	**3,177**	**14%(Q)**	**14%(Q)**	**24%**	**48%**
Prior to 1960	926	15%(Q)	12%(Q)	26%	47%
1960-1969	674	16%(Q)	12%(Q)	18%	54%
1970-1979	856	8%(Q)	12%(Q)	26%	54%
1980-1989	675	19%	21%	24%	36%

Source: *Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989*
Note: *Excludes persons who reported having no skills in either of Canada's official languages*
* *Total includes "not stated" year of immigration*
(Q) Users are cautioned that the sampling variability associated with this estimate is high

Reading skills are lowest among immigrants who came to Canada during the last decade -- only 36% achieved level 4. Almost 2 in 5 of these recent immigrants are classified at levels 1 and 2, indicating that many have only a limited knowledge of English or French. The reading skills profile of immigrants who came to Canada before 1960 is also relatively low, with 14% of these immigrants classified at reading level 1 and only 47% at reading level 4, reflecting an older population with lower levels of educational attainment. Interestingly, the immigrants who came during the 1970's have the highest reading skills profile with a relatively small percentage at level 1 and more than half (54%) at level 4.

In the general population, schooling is the dominant factor for acquiring reading skills. For immigrants, however, while this relationship is a strong one, a multitude of other factors influence reading proficiency, at least for the adaptation period to the new environment. Table 4.4 compares the reading skills of immigrants to those of the Canadian-born population by highest level of schooling. The impact of these other factors on the reading skills of immigrants is well illustrated in this table. At all levels of schooling, the immigrants had lower reading skill profiles than the Canadian-born population. Even at levels such as secondary school completion and postsecondary training, the differences are appreciable. Only 39% of the immigrants who have completed high school had assessed reading skills at level 4 compared to 75% for those born in Canada. Similarly, 66% of the immigrants who reported some postsecondary training were classified at level 4 compared to 87% for those born in Canada having equivalent qualifications.

Table 4.4

Percentage distribution of adults aged 16-69 by highest level of schooling and migration status showing reading skill level, Canada

	Population (thousands)	Reading level			
		Level 1	Level 2	Level 3	Level 4
Elementary or no schooling					
Born in Canada	1,396	20%	36%	32%	13%
Born outside Canada	422	51%	27%	15%(Q)	(1)
Some secondary					
Born in Canada	4,051	2%	13%	36%	49%
Born outside Canada	376	(1)	17%(Q)	32%	36%
Secondary completed					
Born in Canada	3,611	(1)	4%	21%	75%
Born outside Canada	570	(1)	22%	26%	39%
Postsecondary*					
Born in Canada	5,375	(1)	2%(Q)	11%	87%
Born outside Canada	1,673	(1)	7%(Q)	23%	66%

Source: *Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989*
Note: *Excludes persons who reported having no skills in either of Canada's official languages*
* *Includes trade schools*
(1) The sampling variability associated with this estimate is too high for the estimate to be released
(Q) Users are cautioned that the sampling variability associated with this estimate is high

4.1.2 Language

The reading skills of adults born in Canada also exhibit variations when examined by official language. Chart 4.3 shows the reading skill levels of the Canadian-born population by language used to complete the simulation tasks. While the test items were of similar difficulty[5], the reading skills of those who completed the tasks in French are lower than those who completed them in English. These differences are apparent at all levels but are most important at levels 2 and 4. Seven percent of those who took the test in English were classified at level 2 compared to 13% of those who completed the test in French. Similarly, at level 4, the comparable percentages are 70% for English and 58% for French.

Interestingly, these differences in the reading skills between English and French remain constant even when different measures of languages are examined. Comparisons of the two populations based on first language, main language[6] and language of the test, yield almost identical results.

All respondents could choose English or French to complete the simulation tasks. Almost all of those who reported English as their mother tongue completed the test in English. In comparison, as many as 12% (representing more than half a million adults) who reported French as their first language completed the test in English. This percentage drops to 3% when main language is considered. Still, only very minor variations exist when comparing reading skills by language of test, by main language or by mother tongue.

The differences in the reading skills between anglophones and francophones is explained, in large part, by historical differences in the educational attainment of the two populations. Prior to school system reforms in all provinces, in general, educational attainment of the francophone population was lower than that of the anglophone population. In fact, it is only among the younger adult population (those less than 35 years of age) that the differences by school level are minimal.

Table 4.5 compares the reading skill profiles of the Canadian-born population by mother tongue and the highest level of schooling. It is interesting to note that the only level of schooling where the percentage reporting French as mother tongue is greater than the percentage reporting English mother tongue is the level "no schooling or elementary schooling only". In fact, 18% of the population with a French mother tongue reported no schooling or elementary schooling only, compared to 5% with an English mother tongue. Not surprisingly, the largest concentration of this educational group with French as mother tongue is at reading level 2 (41% compared to 29% for Canadians with English as mother tongue).

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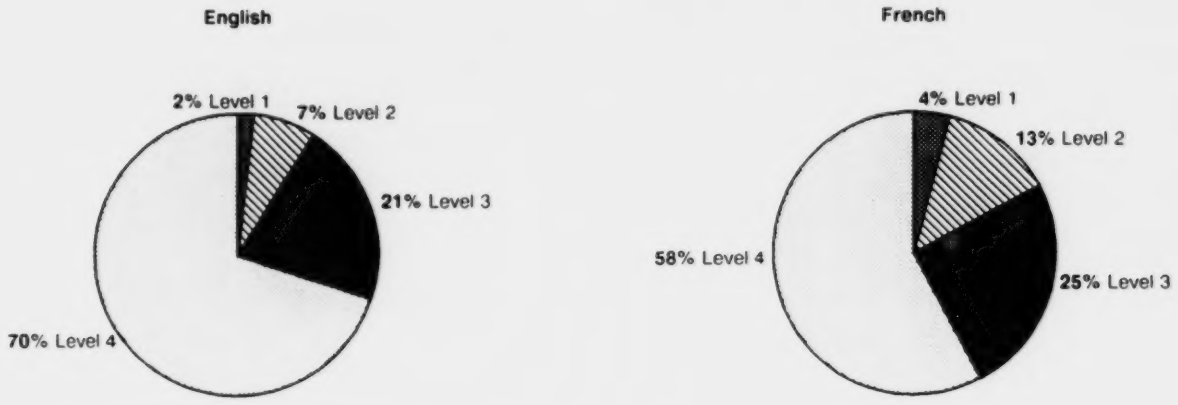
[5] *Item Response Theory was used to estimate separately the relative level of difficulty of all items in English and French.*

[6] *"First language" (mother tongue) is the language first learned in childhood. "Main language" is the language in which a person is most comfortable.*

Chart 4.3

Reading level by language used to complete tasks, Canadian-born population aged 16-69



Source: Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989.
Note: Excludes persons who reported having no skills in either of Canada's official languages.

Table 4.5

Percentage distribution of adults born in Canada (aged 16-69) who reported English or French as mother tongue by highest level of schooling showing reading skill level

	Population (thousands)	Reading level			
		Level 1	Level 2	Level 3	Level 4
No schooling or elementary					
English	557	22%	29%	33%	15%(Q)
French	730	20%	41%	29%	10%(Q)
Some secondary					
English	2,591	(1)	12%	34%	52%
French	1,255	(1)	15%	39%	44%
Secondary completed					
English	2,287	(1)	3%(Q)	19%	77%
French	1,135	(1)	6%(Q)	23%	70%
Postsecondary (non-university)					
English	1,816	(1)	(1)	13%	85%
French	818	(1)	(1)	14%(Q)	81%
University					
English	1,769	-	(1)	6%(Q)	93%
French	630	-	(1)	(1)	90%

Source: *Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989.*
Note: *Excludes persons who reported having no skills in either of Canada's official languages.*
(1) The sampling variability associated with this estimate is too high for the estimate to be released.
(Q) Users are cautioned that the sampling variability associated with this estimate is high.

Table 4.6

Percentage distribution of adults born in Canada (aged 16-69) who reported English or French as mother tongue by age group showing reading skill level

	Population (thousands)	Reading level			
		Level 1	Level 2	Level 3	Level 4
16-24					
English	2,105	(1)	4%(Q)	22%	74%
French	815	(1)	6%(Q)	25%	69%
25-34					
English	2,526	(1)	4%(Q)	13%	83%
French	1,184	(1)	4%(Q)	22%	73%
35-44					
English	1,905	(1)	3%(Q)	17%	79%
French	1,047	(1)	6%(Q)	24%	68%
45-54					
English	1,195	(1)	8%(Q)	27%	63%
French	716	(1)	20%	30%	45%
55-69					
English	1,361	9%	18%	32%	41%
French	817	14%	35%	26%	25%

Source: *Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989*
Note: *Excludes persons who reported having no skills in either of Canada's official languages*
(1) The sampling variability associated with this estimate is too high for the estimate to be released
(Q) Users are cautioned that the sampling variability associated with this estimate is high

In general, the gap between the two populations tends to narrow when higher levels of schooling are compared. For those with partial secondary training and those who completed their secondary schooling, the level 4 differences are around eight percentage points higher for the English mother tongue population. The differences are smallest at the university level.

Comparing the two populations by age group (table 4.6) produces results that are consistent with those obtained for schooling. For the Canadian-born population, the reading skills of the younger age group (16-24) are similar among those who reported an English mother tongue and those who reported a French mother tongue. For all the other age groups, however, the gaps between the two language groups are significant. Among the 25-34 and 35-44 age groups, differences of about ten percentage points are noted at level 4. Significant differences are also observed at level 3 for these two age groups. For the 25-34 age group, 13% of those with an English mother tongue were classified at level 3 compared to 22% for those with a French mother tongue. For the age group 35-44, the comparative percentages are 17% (English) and 24% (French). These results are in line with the results for schooling, in particular with regard to the gap between Anglophones and Francophones who had some secondary schooling or who had completed secondary school.

This consistent pattern in the results comparing performance by English and French mother tongue can be extended to discount the possible effect of language transfer. In fact, if the reading skills of all those who reported French as their mother tongue are examined by language of test, the pattern remains and, overall, those who took the test in English show higher reading skills than those who did it in their mother tongue.

The gap in the reading skills between the two language groups is mostly concentrated at levels 3 and 4 for the younger population. However, the percentages for partial secondary and for secondary completion are almost equivalent, suggesting that differing reading skills between the populations must be linked to other factors such as differing experiences with everyday reading materials.

4.1.3 Labour market activity

The globalization of national economies causes much concern about the adaptability of the labour force to a rapidly changing work environment. This adaptability presumes the presence of skills allowing the acquisition and application of new knowledge using a variety of printed material. This prerequisite is essential to fully react to an even faster restructuring of the job market. These changing work conditions not only affect existing jobs but also job opportunities favouring the rapid growth of certain occupations and an equally rapid decline of others.

This section examines the reading skills of Canada's adults in relation to labour market activity in the past twelve months and the next section looks at employment characteristics (occupation and industry).

For this survey, the labour force universe had a reference period of 52 weeks (that is, the year preceding data collection, Nov. 1988 – Oct. 1989). The employed population includes all those who reported at least one week of work during the 52 weeks preceding the survey. Similarly, the unemployed population groups all Canadians who where unemployed at least one week (that is those without work and looking for work). The population out of the labour force is all adult Canadians who reported at least one week out of the labour force during the reference period. The three universes are not mutually exclusive: persons who reported having worked at some time during the reference period, being unemployed at another and also having weeks out of the labour force are part of all three universes.

Fourteen million adult Canadians (80% of Canada's adult population) reported weeks worked at some point in time during the twelve months preceding the collection period (October 1989). Table 4.7 presents the reading skills of the employed labour force distinguishing full and part-time work. While the reading skills of the employed labour force are higher than the overall population

Table 4.7

Percentage distribution of adults aged 16-69 by labour market activity showing reading skill level, Canada

	Population (thousands)	Reading level			
		Level 1	Level 2	Level 3	Level 4
All adults	**17,705**	**5%**	**10%**	**22%**	**63%**
Employed L.F.*	14,094	3%	7%	21%	69%
Full-time workers**	11,532	3%	7%	21%	69%
Part-time workers	2,563	(1)	8%	22%	69%

Source: *Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989*
Note: *Excludes persons who reported having no skills in either of Canada's official languages*
(1) The sampling variability associated with this estimate is too high for the estimate to be released
* *Employed labour force refers to persons who reported at least one week worked at a job or business during the 12 months preceding the survey*
** *Full-time workers are those who reported working 30 or more hours a week*

Table 4.8

Percentage distribution of employed adults aged 16-69 by number of weeks worked during the twelve months preceding the survey showing reading skill level, Canada

	Population (thousands)	Reading level			
		Level 1	Level 2	Level 3	Level 4
All adults	**17,705**	**5%**	**10%**	**22%**	**63%**
All employed*	14,094	3%	7%	21%	69%
Full-year workers**	11,002	3%	7%	20%	70%
Part-year workers	3,048	(1)	9%	23%	65%

Source: *Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989*
Note: *Excludes persons who reported having no skills in either of Canada's official languages*
(1) The sampling variability associated with this estimate is too high for the estimate to be released
* *Employed Labour force refers to persons who reported at least one week worked at a job or business during the twelve months preceding the survey*
** *Full year workers are those who reported having worked 40 or more weeks during the twelve months preceding the survey. Part-year workers are those who reported less than 40 weeks worked. "Not Stated" to weeks worked are included in the total "All Employed"*

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(explained in part by the fact that most of the older population is out of the labour force), the reading levels of part-time and full-time workers do not differ significantly. In both cases, one employed adult out of ten had limited reading skills (levels 1 and 2) while another 2 out of ten could deal with well laid-out documents or simple texts (reading level 3). Close to 70% of those who worked at a job or business in the twelve months preceding the survey had skills that enabled them to deal with most everyday reading material (reading level 4).

If work intensity is considered, larger differences in the reading skills among the employed population are apparent. Table 4.8 compares the reading skills of the full-time employed labour force, separating those who reported 40 or more weeks worked (full-year workers) from those who worked less than 40 weeks (part-year workers). The comparison reveals that the reading skills of the part-year workers are lower than those of the full-year workers. Sixty-five percent of the part-year workers were classified at reading level 4 compared to 70% for the full-year workers.

Another dimension of work intensity that can be examined is the number of weeks of unemployment. Fourteen percent of the adult population reported weeks of unemployment during the twelve months preceding the survey. Among this population, the majority (over 60%) were unemployed for less than 26 weeks while the remainder experienced periods of unemployment exceeding half a year. The comparison of the reading skills by weeks of unemployment reveals a significant gap among the two groups (table 4.9). Only 47% of the adults who reported a period of unemployment exceeding six months had level 4 reading skills compared to 67% for those with a shorter period of unemployment. A third of those without work for 6 months or more had level 3 reading skills and close to one in five had limited reading skills (levels 1 and 2).

The out of the labour force population includes persons who reported one or more weeks during which they did not work and did not look for work. Students, persons staying at home to raise a family and retired workers form the majority of this population. In total, 34% of the adult population reported one week or more out of the labour force. Close to half of this population was aged 45 or older. It is therefore not surprising to note that their reading skills are lower than the skills of the labour force population and that of the overall adult population (chart 4.4). One in four adult Canadians not in the labour force had limited reading skills (levels 1 and 2). Just over half of this population had reading skills enabling them to deal with most everyday printed materials.

Table 4.9

Percentage distribution of unemployed adults aged 16-69 by number of weeks of unemployment during the twelve months preceding the survey showing reading skill level, Canada

	Population (thousands)	Reading level			
		Level 1	Level 2	Level 3	Level 4
All adults	**17,705**	**5%**	**10%**	**22%**	**63%**
All unemployed*	2,490	4%(Q)	9%	27%	60%
26 weeks or more of unemployment	969	8%(Q)	12%(Q)	33%	47%
Less than 26 weeks of unemployment	1,522	(1)	8%	23%	67%

Source: *Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989*
Note: *Excludes persons who reported having no skills in either of Canada's official languages*
(1) The sampling variability associated with this estimate is too high for the estimate to be released
(Q) Users are cautioned that the sampling variability associated with this estimate is high
* *Unemployed labour force refers to adults who reported one or more week of unemployement (i.e., without work and looking for work) during the twelve months preceding the survey*

4.1.4 Employment characteristics

Employment characteristics are also reflective of the adjustment of the labour market to economic conditions. Similarly, the literacy requirements of jobs are indicative of specific working conditions. The literacy requirements of jobs vary over time as technologies, production processes and organizational structures of industries evolve. As a result, workers within a particular occupation or industry will have a variety of educational characteristics and work experiences at any point in time.

Functional literacy skills are basic tools required to deal with adaptation periods resulting from changes in job content or in labour market conditions. They allow workers to undertake training or to acquire new knowledge on the job.

On the other hand, work environment probably also plays an important role in the evolution of workers' functional literacy skills. Workers in industries where printed information is present throughout the organization are likely to exhibit high reading skill profiles; the literacy demands in these industries contribute to the retention of literacy skills by their workers. The opposite is also likely true, especially for workers in unskilled or semi-skilled occupations.

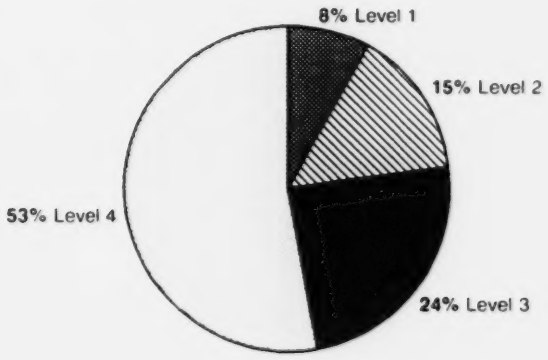
Industry

The Labour Force Survey[7] defines industry as the kind of business or industrial activity in which a person is employed. In table 4.10, the reading skills of adult Canadians reporting work activity are compared by industry division. In general, workers in service industries (which are more heavily information-oriented than other industries) have higher reading skill profiles. More than 70% of the workers in industries such as finance, insurance and real estate, community services, services to business, public administration, wholesale trade and transportation, have skills sufficient to meet most everyday demands (level 4).

[7] *The industry and occupation information was extracted from the April 1989 Labour Force file which was used to select the LSUDA sample. Therefore, the information refers to the job of the respondent during the LFS reference week. For those not working that week, the information refers to the most recent job held in the previous five years (i.e., before April 1989).*

Chart 4.4

Reading levels, Canadians aged 16-69 who are out of the labour force*



Source: Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989.
** Includes those with 1 or more weeks during which they did not work or look for work during the 12 months preceding the survey.*

Table 4.10

Percentage distribution of adults aged 16-69 by industry showing reading skill level, Canada

	Population (thousands)	Reading level		
		Levels 1 & 2	Level 3	Level 4
All adults*	**17,705**	**15%**	**23%**	**63%**
All industries	15,315	11%	21%	67%
Agriculture	487	21%	31%	48%
Other primary industries	374	21%	29%	50%
Manufacturing				
Non-durable goods	1,304	18%	27%	56%
Durable goods	1,299	14%	26%	61%
Construction	745	15%	27%	58%
Transportation	1,090	8%(Q)	19%	73%
Trade				
Wholesale	640	8%(Q)	18%	74%
Retail	2,097	10%	26%	64%
Finance, insurance and real estate	761	(1)	15%(Q)	81%
Service industries				
Community services	2,677	9%	14%	76%
Personal services	1,437	17%	26%	57%
Service to business and miscellaneous services	1,240	9%(Q)	17%	74%
Public administration	1,164	6%(Q)	16%	78%

Source: *Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989*

Note: *Excludes persons who reported having no skills in either of Canada's official languages*

(1) The sampling variability for this estimate is too high for the estimate to be released

(Q) Users are cautioned that the sampling variability associated with this estimate is high

* *The industry information, which was pulled from the April 1989 Labour Force Survey file used to select the LSUDA sample, refers to the job of the respondent during the LFS reference week. For those not working that week, it refers to the main job in the previous 5 years.*

At the opposite end, only half of the workers in agriculture and the other primary industries (forestry, mining, fishing and trapping) have skills to meet everyday reading demands. Over one in five workers in these industries have limited reading skills (levels 1 and 2). High percentages at reading levels 1 and 2 are also found in manufacturing, personal services and in construction. A large immigrant population less familiar with Canada's official languages in these industry groups explains, in part, the high percentages at the two lowest reading levels. The non-durable goods industries (for example, food and beverages, leather products, textiles) within the manufacturing industries also have noticeably low-skilled populations, with 18% of the workers being at reading levels 1 and 2.

Industries with low reading skill profiles also have larger percentages of workers at level 3. More than a quarter of the workers in these industries were classified at that level (31% for agriculture). These percentages could give rise to concern because these industries, especially, are experiencing important and rapid change.

Occupation

Many occupations[8] are closely associated with particular industries (for example, farmers to agriculture, fishermen to fishing, hunting and trapping). Therefore, similarities in the reading skills for these occupations to the overall industry reading profiles is expected. Farming and other occupations in the primary sector, as well as product fabricating (manufacturing), show reading skill distributions similar to their industry -- less than half of the workers in these occupations are classified at reading level 4 (table 4.11).

Within the service occupations, the small group that includes janitors and other elemental service occupations shows less than half (44%) of the workers with skills at level 4. Twenty-five percent of the workers in this occupational group were classified at reading levels 1 and 2 (explained in part by a large immigrant component). Similar situations are observed within the product

[8] *Occupation in the Labour Force Survey is defined as the kind of work done by individuals according to their main activities or duties.*

Table 4.11

Percentage distribution for adults aged 16-69 by occupation showing reading skill level, Canada

	Population (thousands)	Reading level		
		Levels 1 & 2	Level 3	Level 4
All adults*	**17,705**	**15%**	**23%**	**63%**
All occupations	15,315	11%	21%	67%
Managerial, administrative & related occupations	1,823	(1)	12%	85%
Natural sciences, engineering & social sciences	913	(1)	10%	86%
Teaching & related	693	(1)	(1)	92%
Health & related	728	10%(Q)	14%(Q)	76%
Clerical & related	2,584	4%(Q)	20%	75%
Sales	1,481	7%(Q)	24%	69%
Service	2,329	21%	27%	52%
Farming & other primary	692	21%	33%	46%
Processing & machining	967	18%	30%	52%
Product fabricating	1,094	23%	28%	49%
Construction trades	749	17%	29%	54%
Other	1,263	13%	22%	65%

Source: Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989
Note: Excludes persons who reported having no skills in either of Canada's official languages
(1) The sampling variability for this estimate is too high for the estimate to be released
(Q) Users are cautioned that the sampling variability associated with this estimate is high
* *The occupation information, which was pulled from the April 1989 Labour Force Survey file that was used to select the LSUDA sample, refers to the job of the respondent during the reference week. For those not working that week, it refers to the main job in the past 5 years.*

fabricating occupations. As many as 44% of the workers in textile processing occupations were classified at levels 1 and 2, and 36% of the workers in wood processing occupations (except pulp and papermaking) were classified at these levels.

Reading skills are lower than the overall adult population in the construction trade occupations (54% at level 4), the processing and machining occupations (52% at level 4) and the service occupations (52% at level 4). Close to one in five workers in these occupational groups are at levels 1 and 2.

As expected, the occupational groups consisting of professional and highly skilled occupations show high reading skill distributions. Eighty-five percent of those in managerial, administrative and related occupations, 86% in natural sciences, engineering and social sciences occupations, and 92% in teaching and related occupations had skills sufficient to meet most everyday reading demands. The health and related occupations, clerical and related occupations, and sales occupations (less homogeneous groups) had lower reading skills, with roughly 3 out of 4 workers being classified at level 4.

4.2 Literacy skill levels in relation to self-assessment and perceived needs

Research has shown that persons with low literacy skills tend to be reluctant to reveal their abilities and many develop strategies to conceal their problem. And yet, an essential step in skills improvement -- whether it be reading and writing skills, comprehension skills or communication skills -- is recognizing the need to improve. In this regard, a number of questions dealing with self-assessment of literacy skills and perceived needs were included in the background questionnaire.

Table 4.12 shows the results by reading level to the self-assessment question. Respondents were asked to rate their reading and writing skills in English or French on a scale of 1 to 5 where 1 was poor and 5 was excellent. Fifty percent of Canadian adults with level 1 reading ability rated their skills at the two lowest points on the scale and a further 28% rated themselves at the midpoint. Level 2 readers were more positive in their self-assessments. Only 15% rated themselves below the midpoint while 45% rated themselves at 4 or 5. The majority of level 3 and 4 readers rated themselves at the top two points on the scale (62% and 82% respectively).

Table 4.12

Percentage distribution of adults aged 16-69 by reading skill level showing self-assessment of skills in English or French, Canada

	Population (thousands)	Self-assessment of skills				
		1 (Poor)	2	3	4	5 (Excellent)
Canada	**17,673***	**2%**	**4%**	**23%**	**40%**	**31%**
Level 1	853	32%	18%	28%	16%	(1)
Level 2	1,694	(1)	12%	39%	27%	18%
Level 3	3,979	(1)	4%	33%	38%	24%
Level 4	11,146	-	2%	17%	45%	37%

Source: *Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989*
Note: *Excludes persons who reported having no skills in either of Canada's official languages*
* *"Not stated" to the self-assessment question are not included in the table*
(1) The sampling variability for this estimate is too high for the estimate to be released

Table 4.13

Percentage distribution of Canadian adults aged 16-69 by reading skill level showing level of satisfaction with reading and writing skills in English or French

	Population (thousands)	Satisfied	Dissatisfied
Level 1	809*	57%	43%
Born in Canada	407	71%	29%
Born outside Canada	402	44%	56%
Level 2	1,693	82%	18%
Born in Canada	1,253	88%	12%
Born outside Canada	440	66%	34%
Level 3	3,970	91%	9%
Born in Canada	3,216	92%	8%
Born outside Canada	754	85%	15%
Level 4	11,122	96%	4%
Born in Canada	9,585	96%	4%
Born outside Canada	1,538	95%	(1)

Source: *Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989*
Note: *Excludes persons who reported having no skills in either of Canada's official languages*
* *"Not stated" and "No Opinion" to the satisfaction question are not included in the table*
(1) The sampling variability for this estimate is too high for the estimate to be released

Respondents were also asked if they were satisfied with their reading and writing skills in English or French. The results of this question by reading level are presented in table 4.13. It is somewhat surprising that 54% of level 1 readers and 82% of level 2 readers reported being satisfied with their reading and writing skills. It could be that Canadians at these levels have found ways to cope with their limited reading abilities and hence are satisfied with their skills. They may, for example, try to avoid situations that require reading. Or, Canadians with a main language other than English or French may limit their reading to texts written in their main language. This information has important repercussions for those who must motivate clients to register and attend literacy programs. The fact that only 9% of Canadians with level 3 reading skills are dissatisfied with their skills also has implications for marketing improvement programs to this subgroup.

Table 4.13 also shows response to the satisfaction question for the Canadian-born and immigrant populations. A significantly larger proportion of immigrants at levels 1 and 2 are dissatisfied with their skills -- 56% at level 1 and 34% at level 2 -- compared to 29% at level 1 and 12% at level 2 for the Canadian-born population.

When asked if they felt their reading skills in English or French were adequate for their daily activities, 94% of Canadians answered "yes". Respondents who reported having either worked or looked for work in the last twelve months were also asked if they felt their reading skills in English or French were limiting their job opportunities. Eight percent answered this question affirmatively. It is interesting to compare the responses to this question by the two subgroups: those who worked and those who looked for work. Twenty-one percent of those who looked for work perceived their skills to be limiting their job opportunities, compared to 7% for the population who worked.

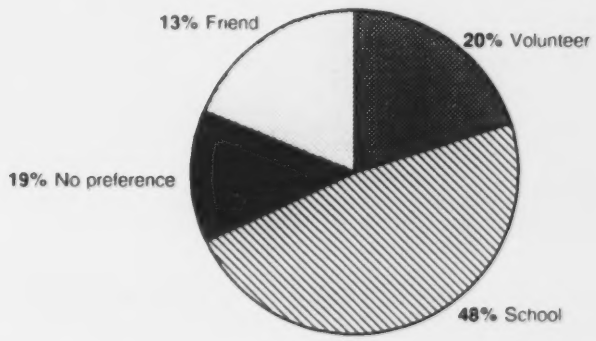
Along this same line, the working population responded to a question regarding the adequacy of their reading skills for the job. Ninety-eight percent felt their skills were adequate for their job.

Respondents who indicated that their reading or writing skills were inadequate (representing approximately 1.2 million Canadian adults) were asked a series of questions regarding training programs. One such question concerned the perceived usefulness of certain types of training programs for dealing with daily activities. Around one in three reported that a "program that teaches you to read instructions such as on medicine bottles or packaged goods" would help them in their daily activities. While about 60% felt a program to help read business and government forms would be helpful, less than half (around 40%) considered a "program that teaches you to read newspapers, magazines or books" to be helpful. Sixty-six percent reported that programs teaching the writing of letters and notes would be helpful.

Respondents who indicated their skills were inadequate were also asked about their preference for training instructors. Forty-eight percent indicated they would prefer a teacher from a local school or community college, 20% would prefer a volunteer or tutor from a local literacy program, 13% would prefer a friend or family member and 19% indicated no preference (chart 4.5).

Chart 4.5

Training program preference of Canadians aged 16-69 with self-assessed inadequacies



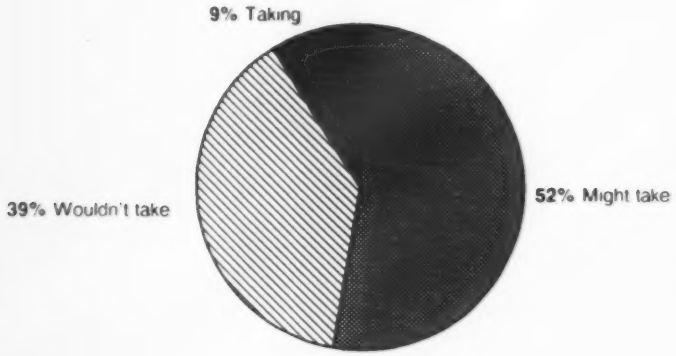
Source: Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989

Respondents with self-perceived inadequate skills were also asked about their current enrollment or potential enrollment in training programs. Only 9% indicated they are currently taking instruction to improve their reading and writing skills in English or French. A further 52% reported that they might, someday, take such instruction (chart 4.6).

Literacy program enrollment figures have traditionally been low and the above results suggest that motivating Canadians to register for literacy programs may continue to pose a challenge. Level 1 and 2 readers are candidates for the traditional type of literacy programs. And while level 1 readers do recognize that they have low skills, the majority of them are satisfied with their current abilities. Level 2 readers may be more reluctant to talk about their low abilities with others and in fact, a large majority indicate satisfaction with their level of proficiency. It is less obvious what type of instruction may be required for Canadians at level 3 but it is clear that although most Canadians in this group do not identify themselves as candidates for skill improvement, the group is at risk if the literacy demands of society increase.

Chart 4.6

Current or potential enrollment in training programs, Canadians aged 16-69 with self-assessed inadequacies



Source: Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989.

5.0 Concluding Comments

The levels used in the reading and numeracy components provide a ready means for matching the skills available in the population with the demands placed on individuals in particular circumstances. The survey results provide a direct assessment of the actual functional literacy skills of Canadians and provide a context for analyzing present and future requirements.

Globally, the survey reveals that sixteen percent of adult Canadians have limited reading skills and cannot, individually, face most of the demands encountered daily. This group is mostly composed of two segments: Canadians with limited school attainment (close to half are over the age of 55) and first generation immigrants less familiar with Canada's official languages. Another 22% of Canadians have abilities enabling them to deal with simple or well laid out text, provided the task is not too difficult. The majority of these Canadians (62%) have secondary education (partial or completed) and they are almost equally distributed among age groups. Whether all Canadians with assessed literacy deficiencies require attention awaits research on the frequency of reading demands that cannot be met. The Survey of Literacy Skills used in Daily Activities was not designed to answer that question; but rather, to clarify the characteristics of the population at risk.

In this overview, only part of the data collected by LSUDA has been discussed. A number of other issues related to literacy in Canada can be explored using this national database. The second part of this publication further explores the adult literacy situation of Canadians by focusing the results in a range of fields.

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Appendix I

Question selection criteria

The choice of background questions had to respect certain constraints associated with household surveys, among which respondent burden was especially critical. Questions that attempt to measure factors related to learning, attitudes or environment during childhood were excluded from the survey as they present several problems in the context of an adult population survey. Firstly, questions probing these areas pose serious recall problems. Secondly, to measure the likely impact of such factors on the literacy abilities of respondents with adequate depth, a series of questions is required. To confine the interview to a reasonable length, only characteristics which have a direct bearing on literacy skills, and for which measurement is relatively straightforward, were retained.

The selection of the items for the "screening" questionnaire and "main" questionnaire was done according to predefined levels for reading, writing and numeracy ability. The number and kinds of items in the test were also limited so that the interview would last about one hour. Further, in light of the importance of reading relative to writing and the long time required to complete writing tasks, the number of writing tasks was limited. Also because of the need to have middle and lower level literacy skills measured with greater precision than at higher levels, more items were selected at the low end of the scale.

Several other criteria also played a role in defining what tasks would be included. Most importantly, tasks had to be of a type commonly encountered in daily living in Canada. The inclusion of tasks which were outside the experience of the majority of Canadians would have given an unfair advantage to those Canadians who had previously been exposed to a particular task. Secondly, the material selected had to be clear and unambiguous. Ambiguity would increase the chance of getting an item wrong because of misinterpretation and hence, mask the intrinsic difficulty of the task.

As well, the items or tasks had to be suited for a household survey directed to the general adult population. For most respondents, this survey would have been their first exposure to a test environment since leaving the formal school system. Coupled with the fact that the federal government was conducting the test, the nature of the survey played an important part in limiting the length and complexity of the items included on the test. Thus, reading aloud tasks and tasks more commonly encountered in academic settings, such as interpretation of poetry, were excluded.

Interviewing

The information was collected during October, 1989, in a personal interview in the respondent's home. All tasks were administered in accordance with rigorous interviewer instructions.

Labour Force Survey interviewers carried out the data collection. Their training was particulary oriented towards methods of administering the tasks in a neutral manner and adhering strictly to directives. The sensitive nature of the subject matter was stressed and they were trained to deal with situations involving language difficulties, low literacy skill levels, reluctance and other difficulties which might arise during the interview.

If a respondent could not communicate with the interviewer in one of the official languages, an interpreter could be used to set up an appointment and to complete the background questionnaire. The respondent was then asked to attempt the simulated tasks without the assistance of the interpreter. A count was kept of persons who were incapable of performing any of the simulated tasks because of language difficulties.

Appendix II

Some notions of literacy

The standard definitions of functional literacy, particularly the widely influential 1978 UNESCO definition

> A person is *functionally literate* who can engage in all those activities in which literacy is required for effective functioning of his/her group and community and also for enabling him/her to continue to use reading, writing and calculation for his/her own and the community's development.

are phrased in terms of the outcomes of literacy, the status of a literate person, not in terms of the underlying competency(ies) that permit an individual to "engage in all those activities...". The UNESCO definition implies that literacy is relative, so that a person may be functionally literate at one time in one society, but not at a different time or in a different society. If this were the concern of a particular study, then it would be proper to focus on such outcomes. But if the focus is on what needs to be done to help individuals who are not functionally literate, or to predict how many may need training (and what kind of training, were the literacy demands of society to increase), then attention to underlying skills is necessary. Only by matching the skills present in the individuals who constitute the society with the skills needed to "engage in all those activities..." can any deficiencies be properly identified.

Since the purpose of the Survey of Literacy Skills in Daily Activities was to profile the literacy skills in Canadian society, it was essential that the results be reported not in terms of the outcome of functional literacy, but in terms of the constitutive skills.

The functional literacy continuum

It is generally agreed that functional literacy skills do not fall neatly into categories, but rather form a continuum. It is possible, however, to identify points along this continuum that deserve particular attention because they are useful for policy and program development and educational planning. None of these points, however, divides the continuum into "literate" and "illiterate". Neither term specifies particular tasks and skills that characterize any individual because of the relative nature of functional literacy. The LSUDA "levels" are simply points along this functional literacy continuum that it was believed would be useful to governments in identifying types of programs needed to deal with the literacy problem. They would also be useful to literacy providers in identifying clients -- possibly new kinds of clients -- for their services. In identifying points of interest in this way, it was important to rely on an adequate theory of functional literacy, particularly as it pertains to functional reading. The work of Mikulecky on the task context of functional literacy (Mikulecky, 1985) and the work of Kirsch and Guthrie on the cognitive differences between school and functional reading (Guthrie, 1988; Guthrie & Kirsch, 1987) were useful in establishing a framework.

In addition to the more theoretical work of Mikulecky, Kirsch, and Guthrie, there have been a number of tests of functional literacy. Of central importance to LSUDA was the test developed in 1986 for the National Assessment of Educational Progress survey of young adult literacy in the United States (Kirsch & Jungeblut, 1986). While the authors of this NAEP study did not formally label points along the continuum, they did report and discuss results at certain points along it. The examination of these results was useful in verifying the proposed points for the LSUDA, even though the data were not cast to allow the conversion of the NAEP results to the Canadian scheme.

The measurement of functional literacy using levels

Having identified certain points along the functional literacy continuum to use as markers (that is, the LSUDA levels), and having created and administered tasks to test for those points, individuals could then be located along the continuum. In placing individuals into the levels, it was necessary to relate the individuals' scores to the tasks that define the various levels. This was accomplished through the use of item response theory.

Item response theory (IRT) is a procedure used to summarize the pattern of answers on a test in a manner which accounts for task difficulty, tasks not attempted, guesses and random errors. IRT calculates an estimate of each task's difficulty and an estimate of an individual's ability using the same numerical scale (commonly a scale ranging from 0 to 500).

Once IRT difficulty scores for the tasks had been calculated, the ranges for each level were determined. Tasks were ordered according to their difficulty score and the level for which each task was initially designed was compared with the groupings which emerged from the difficulty scores. A cluster analysis program was also run to group the tasks by statistical similarity. The task groups (or clusters) derived from this analysis matched those from the theory-driven examination. The ranges for each level were then determined on the basis of the scores of the easiest task at that level and the most difficult task at that same level. This left small uncovered areas which were divided at even numbers. The reading continuum was divided into the following levels:

Level 1:	Under 160
Level 2:	160-204
Level 3:	205-244
Level 4:	245 and over

Having determined the ranges for each level, the determination of an individual's level was relatively easy. The individual's score is the difficulty of the most difficult task that the individual has an 80% chance of answering correctly. Any individual whose score is less than 160 is at reading level 1, any individual whose score is over 160 but less than 205 is at reading level 2, and so on.

Because an individual's score is based on the total pattern of answers, not just those of a particular level, it is possible that some level 2 individuals will answer level 3 items, but they will not do so consistently. Thus, an individual's level is the highest level at which he/she can perform consistently.

Other components of literacy

While literacy is usually defined as composed of reading, writing, and numeracy skills, as in the UNESCO definition, literacy is often identified primarily with reading. Indeed, the above discussion focussed on reading. However brief and tentative the literature on adult reading is, that on adult numeracy and writing is almost entirely absent. Studies that discussed in detail these aspects of literacy could not be found. Some studies suggest that the cognitions used in school arithmetic are different from those in everyday numeracy (Lave, 1988). Unfortunately, these studies do not reveal much about the everyday numerical calculations they investigate. In any case, they tend to emphasize the task-specific properties of what they do study. As the goal of LSUDA was to provide a generalizable measure of Canadians' ability to apply arithmetic skills in the context of commonly encountered documents, past studies offered only indirect guidance.

There was even less to direct the measurement of writing. The few studies of non-school writing (Odell & Goswami, 1985) concerned mostly business writing, which is not applicable to all adults. As the emphasis of LSUDA was on functional writing, two tasks were included that reflect typical situations in which writing would be required. In both cases, respondents were asked to write text conforming to very specific content requirements. Even though the writing measure is considerably more tentative than the reading and numeracy measures, it is believed to be an important step -- even though a somewhat uncertain and early one -- toward an understanding of everyday writing skills.

Adult Literacy in Canada:

Results of a National Study

Part II

1. An International Review of the Concepts, Definitions and Measurement Approaches Underlying Literacy Statistics

By
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How does Canada situate itself internationally on the literacy front? The answer to this question has important implications for how well Canada can adapt to the world of the future -- a world generally perceived to be undergoing rapidly increasing levels of competition where only a well trained and adaptable work force can sustain Canada's standard of living. Unfortunately, it is very difficult to compare the situation in Canada with other countries, due to the markedly different ways statistics on illiteracy are compiled.

Concepts of literacy range from that of the most basic level to functional literacy which represents a more advanced level of proficiency. Almost all countries which measure literacy do so at a basic level. Over 110 countries have, to date, accepted in principle the definition of literacy established by UNESCO (1978):

> "a person is literate who can with understanding both read and write a short simple statement on his everyday life".

These countries do, however, vary markedly in the extent to which essential features of this definition have been captured in their measurement approaches, survey instruments and operational procedures.

The data source underpinning statistics on literacy for almost all countries which report them is the Census of Population. This requires that, at most, one or two direct questions be devoted to the issue of literacy, or that estimates be based upon proxy measures associated with educational attainment.

The pattern most prevalent among developed countries is the use of educational attainment as a proxy for measuring the extent of illiteracy. An age restriction (ranging from 5 years of age and older to 18 years of age and older) is either directly embedded in the census questions or applied at the tabulation stage. More importantly, some countries count as illiterate only those persons with no schooling whatsoever while in others illiterates are those below a cut-off. The broad diversity in educational systems (and sometimes within a country when grade levels are not standard across school jurisdictions) complicate comparisons that can be made between countries. Whatever cut-off point is used, there is definitely a degree of arbitrary choice in setting it. The use of a grade level criterion does not allow for persons who may have achieved the equivalent educational level through self-education and life experience. Also some persons who have achieved such a minimum grade level will have lost their ability to read and write through lack of opportunities for continuing practice. It should be recognized as well that because school attendance is often compulsory, educational attainment may be somewhat overstated in the census of some countries.

In developing countries, household respondents are often asked directly whether they (and others in the household) can read and write. In some cases, only reading skills are addressed and, on occasion, reading skills are covered separately from reading and writing skills. Another approach typically used is an enumerator assessment as to whether respondents can read and write, often based upon a simple test. In practice, however, it is likely that enumerators tend to accept the respondent's word without applying a consistent means of verification. The examples which follow show how the operational instructions for making such a determination can vary among countries following this type of approach:

India (1981):

A person who can both read and write with understanding in any language is to be taken as literate. If there is any doubt, the test that may be applied for reading is his/her ability to read any portion of the enumerator's instruction booklet (provided the person is familiar with the language used in the booklet); similarly, for writing, he/she should be able to write a simple letter. If a person claims to be literate in some other language unfamiliar to the enumerator, the respondent's word is taken to be correct. Other members of the household may also be able to indicate whether the person is literate or not. All children 4 years of age or less are treated as illiterate.

Malaysia (1980):

Persons who have never attended school or only primary school are asked whether they can read a newspaper or a letter and whether they can write a simple letter. These questions are to be asked only in the case of doubt.

Spain (1979):

A person is considered to be literate if he/she can write with understanding a brief and simple summary of events in their daily life. A person is deemed to be illiterate if he/she can read and write only a few numbers, his/her name or a few phrases by memory.

Portugal (1981):

A person is considered to be literate if he/she can read and write, even with difficulty, and is therefore able to read a paper or write a sentence.

Mexico (1980):

A person is literate if he/she can read and write a simple message or note. Those who are classified as literate are asked about the type of material they read.

Benin (1978):

Persons who have not attended school are asked whether they can read and write in a national language.

In many situations, the manner of making a determination of literacy is covered during the interview training by way of examples cast within particular contexts.

Countries such as the Soviet Union and some Eastern European countries integrate the proxy and direct question approaches to literacy measurement by using a separate category for their question on educational attainment. A person is counted as illiterate if he/she has had no elementary schooling and cannot read from a simple text provided by the interviewer.

The interpretation of statistics on literacy and the ability to reconcile international figures is affected by the uneven levels of data quality associated with operational instructions. The clarity of operational instructions and compliance with them affects the extent of misunderstanding and misclassification which can result. The instructions are, as well, generally prone to a large degree of subjectivity in their application. This can be exacerbated depending on the extent to which proxy reporting is allowed on behalf of individuals within households. As well, the social undesirability of being considered illiterate adds to the problem of misclassification.

Another factor which makes international statistics on literacy difficult to reconcile is the language referred to in addressing the ability of the respondents to read and write. In many cases, it is the language of choice of the respondent, in others the official languages of the country, while in others it is the language used by significant groups in the population. In Chad, for example, literacy is defined as the ability to read and write in French or Arabic, in Korea as the ability to read and write Korean, while in Algeria as the ability to read and write fluently in Arabic or French.

Apart from the varied approaches for measuring the extent of illiteracy, another factor which affects the interpretation of these statistics is census coverage. Some countries base their census on their de jure population while others on their de facto population. It should also be recognized that countries exclude different segments of their population generally for operational reasons. Peru, for example, excludes its Indian jungle population; Cuba, those who are disabled.

Turning now to the more complex issue of functional literacy, the 1978 UNESCO Revised Recommendation concerning the International Standardization of Educational Statistics provided the following definition:

> "A person is functionally literate who can engage in all those activities in which literacy is required for effective functioning of his/her group and community and also for enabling him/her to continue to use reading, writing and calculation for his/her own and the community's development".

The need to recognize that literacy is really a continuum becomes increasingly apparent as one attempts to measure more advanced levels of proficiency as implied in the UNESCO Recommendation. Although it would be desirable to categorize persons as being functionally literate or illiterate, to do so would misrepresent a rather complex level of functioning. It is now generally recognized that literacy is a set of skills that people have to varying degrees, and that it is intimately connected to the printed materials commonly encountered in a society at a particular time.

In order to shed light on the extent of illiteracy in the world and to make international comparisons more meaningful, a commonly accepted standard definition needs to be applied in a more systematic way. Of the methods currently employed in the census, the use of a grade level cut-off such as 0-4 years of schooling provides for a more consistent indicator of basic illiteracy than the use of one or two direct questions. What is needed, of course, is the

application of a single grade level cut-off to establish rates of illiteracy on a more consistent basis. The validity of such an indicator is directly tied to the assumption that the basic reading and writing skills inherent in the UNESCO definition have been imparted to persons who have successfully completed such a grade level.

In light of the diversity in the structure of educational systems, particularly beyond the elementary level, and also because notions of functional literacy are so intimately connected to the type and range of printed materials commonly encountered in a culture, educational attainment is less useful as a proxy indicator for literacy proficiency beyond the basic level. Direct measurement studies, through a series of objective tests reflecting the literacy requirements of a society in the context of a household survey, is a relatively new and promising avenue for improving the quality and usefulness of statistics on literacy, particularly those which apply to functional literacy.

While it is clear that international comparisons are difficult to make, do the statistics from the LSUDA study suggest that the literacy problem in Canada is more or less acute than that in other countries?

It is important to recognize that the literacy demands are particularly high in countries like Canada where the nature and use of printed materials are both complex and pervasive. As a result, success on the literacy front means more than functioning at a most basic level, which is what most countries now report. Since industrialized countries like Canada far surpass most nations of the world on the basis of educational attainment, it is safe to assume that it does so as well in the case of literacy. It is very difficult however, to situate Canada among the better educated industrialized countries in a precise statistical manner. Direct measurement studies such as the LSUDA are required to be carried out in other countries on which to base such comparisons.

To date, Australia, Kenya, the USA, Zimbabwe and most recently Canada have carried out direct measurement studies in a household survey context to determine the ability of persons to use reading, writing and numeracy to function effectively in their everyday lives. These surveys have provided a unique opportunity to integrate socio-demographic and background information with a series of functional literacy tasks. These kinds of studies set the stage for a better understanding of the distribution of literacy skills within and between countries.

2. Literacy and International Competitiveness: The Relevance of Canada's Survey

By
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Is illiteracy a serious threat to economic competitiveness? This is a question that would not have been asked 20 years ago in relation to the advanced, industrialized countries. Universal education, it was assumed, meant that more or less everybody could read and write; illiteracy was not an issue except in relation to pockets of extreme deprivation, like America's Appalachia, which did not have a vital influence on their country's overall economic health.

Yet the OECD -- the organisation that oversees the economic interests of the world's richest countries -- has just published a major report linking adult literacy and economic performance*. Its appearance reflects growing concern about the literacy levels of workers, among employers, governments and others in many OECD countries. This concern is not always backed up by a sound understanding of the nature of workers' literacy problems, or of the effect on the firms' performance. Canada's recent survey has helped improve this understanding.

How often do you hear an employer moaning that "many of the people coming out of high school these days can't read or write"? Implicit in this assertion is the idea that there has been a marked fall in educational performance. In fact, there is no firm evidence to suggest that this is true, and the OECD's work has concentrated rather on identifying the rising educational requirements of the workforce. Quite simply, more workers are being asked to use literacy skills in the workplace, and to use them in more sophisticated ways than they did in the past. Set against these higher requirements, literacy standards are often indeed wanting.

Detailed international studies of modern manufacturing and service industries have demonstrated how this problem has come about. New technologies should potentially lead to substantial increases in productivity. But to work properly, these technologies require new kinds of workers. As more and more routine tasks become automated, workers are needed who can perform a variety of tasks, take initiative and sort things out when they go wrong. Have you ever stood in a supermarket line watching a cashier with an automatic price-reading gadget taking more time than if she had an old-fashioned cash register because she has to ring for a supervisor every time there is some irregularity? The fact is that an education system that has traditionally taught people to follow instructions and perform routine tasks has not kept pace with technological change that most of all requires workers who can think.

As many of the exercises tested for the Canadian literacy survey illustrate, the higher level literacy skills needed in many jobs require far more creative thought-processes than simply the deciphering of written words or the performance of straightforward mathematical operations. Canadians who attained "level 4" successfully performed exercises requiring them to interpret texts, and often to reformulate a question in a more familiar form. A worker attempting to repair a machine with the help of a manual and his experience of a similar machine faces similar challenges. Frequently, the manual will not give a precise step-by-step process that can be followed in every case. The worker needs to be able to read, understand and interpret the information, and be able to relate it to his existing knowledge.

This question of confronting the unfamiliar is central -- both to the skills of the modern worker and to our understanding of literacy. Of the extremely limited survey work that has been done in other countries on adult functional literacy, the 1985 National Assessment of Educational Progress in the United States came closest to the Canadian survey in looking at specific competencies at a variety of levels. But it did not try to classify the population into distinct bands according to their achievement. The Canadian attempt to do so -- though inevitably somewhat crude -- is an important contribution to the way literacy might be seen internationally. In a nutshell, functional literacy is becoming an issue not just for the (perhaps) one or two per cent of people who cannot read at all or even the 10-20% with severe reading difficulties, but for possibly a third of all adults who are unable to use reading materials in unfamiliar or complex situations.

The exact numbers do not matter. What is important is that in Canada -- and in all probability in other industrialized countries -- a substantial proportion of the adult population, and not just a marginalized group of generally deprived people, could benefit from improved literacy skills. This produces two conclusions. First, basic skills teaching needs to be pitched at a much wider range of adults. Second, for it to be effective it needs wherever possible to be set in the context of people's everyday lives at work and in the community, rather than being removed to a school classroom. In other words, illiteracy cannot simply be solved by sending a few undereducated adults back to school.

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* *Laureen Benton and Thierry Noyelle. The Literate Worker. Adult literacy and Economic Performance in Industrialized Nations. OECD, Paris, 1991.*

3. Implications for Adult Education

By
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In the world of the 1990's, the ability to communicate effectively through symbols has gained importance far greater than ever before. For employees, it is an essential prerequisite for rewarding economic participation; for parents, it is a tool to encourage effective growth and development for their children; for citizens, it is a means to influence the affairs of their communities and to share their cultural roots. Awareness of these communication needs is greater now than ever before in Canada.

The name our language gives to this capacity is "literacy". In many ways, it is a dysfunctional term. It implies, in popular usage, a qualitative distinction between "literacy" and "illiteracy", as if it were possible to divide people into two distinct categories -- those who have reading and writing skills and those who do not. We all know that our fellows possess a wide variety of reading and writing skills, and that these change over time owing to such factors as educational participation, practice, memory and motivation. The apparent "yes/no" choice between literacy and illiteracy is in fact an infinite variety of skills and knowledge.

In designing its Survey of Literacy Skills Used in Daily Activities, Statistics Canada has performed a useful service by recognizing and dealing with this limitation on the concept of "literacy". Its recent survey has enabled, for the first time, an analysis of the actual reading, writing and computational skills of the adult population of Canada. For ease of description these can be categorized into levels, but what is being collated into these levels is a cluster based upon a series of individual measurements of specific skills.

This survey has influenced public consciousness and public policy more than any previous educational measurement by Statistics Canada. Its results are quoted in labour, management, voluntary sector and government circles -- and for good reason. It has supplied, for the first time in Canada, or elsewhere for that matter, an objective measure of the symbolic communication capacity of our adult population. It is a valuable snapshot, and a basis on which to build future measures.

Prior to release of the results of this survey, many educational policy decisions affecting educationally disadvantaged adults were based upon hunches or informed speculation. Such rough tools, which this survey has cast into sceptical relief, include various habits of drawing inferences about a person's educational capacity from his or her educational attainment. For example, a rule of thumb used by Frontier College in the 1960's was that the average communication capacity of an adult could be guessed by multiplying his or her educational attainment by age when leaving school expressed as a fraction of current age.

The survey instruments can be adapted by others to measure specific groups of adults and to compare them to a statistically reliable Canadian average. This also applies, respecting limits imposed by cultural differences, to other English- and French-speaking countries. The Organization for Economic Cooperation and Development, impressed with the definition and methodology of the Canadian survey, is planning to recommend this concept as part of its future educational research and cooperation with other OECD member countries.

Some political leaders in Canada, concerned with verifying the extent to which young people are learning basic symbolic communication and computational skills in primary and secondary schools, have recently drawn from American policy discussion the idea of testing basic skills at intervals throughout compulsory education. They would do well to examine the methodology of this survey as a cost-effective educational policy evaluation instrument.

The survey's database is extremely rich from a research point of view. Early governmental statements on the survey results barely scraped the surface of available information. While, for example, the reading skills of English-speaking and French-speaking Canadians were compared in initial releases, their relative arithmetic computation capacity was not released. Jurisdictional variations remain to be fully documented. Because the database is fully integrated into the baseline information of the Labour Force Survey, a range of economically relevant information awaits analysis by the research community.

What are the implications of this newly available information on the symbolic communication capacity of the adult population for Canada's diverse adult education community?

The survey establishes beyond reasonable doubt that very substantial numbers of adults have great difficulty functioning effectively in situations which require reading, writing and arithmetical skills. These people are not being

reached effectively by educational outreach. For the greater economic, social and societal good, policy makers will be pressed to give new consideration to the delivery of adult education services in this country. Techniques to reach the educationally disadvantaged, more highly developed in northern Europe than in North America, will likely receive fresh scrutiny.

Pressure upon the compulsory educational delivery systems to assure that their students learn basic symbolic communication skills may increase as a result of the survey's findings, and well it should.

Most important, the survey has made visible a huge educational problem, and indicts our country's presumed educational achievements. Public expectations, aroused by the contradiction between our rhetoric and the results, will raise educational policy questions higher on the political agenda, and presumably on the constitutional agenda, in the 1990's.

The use of this survey's findings is a very good example of the power of information to inform decision-making. Interested observers will maintain a close watch on the results.

4. Literacy and Health in Canada: Contribution of the LSUDA Survey

By
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Literacy and health in Canada

Literacy is increasingly being recognized by those working in the field of health in Canada as a critical determinant of health. Both reflecting and contributing to this recognition is a project initiated by the Ontario Public Health Association in 1988. The purpose of the first phase of the project, which was completed in 1989, was to document the relationship between literacy and health. It explored three central questions: "What is the relationship between literacy and health?"; "What is being done to ensure that people who do not read, write or use numbers will live healthier and safer lives?"; and "What should be done in the future to 'make the world healthier and safer for people who can't read?'" (OPHA, 1985).

From June to September 1988 information to answer these questions was collected from a number of sources, including community organizations, existing literature, case studies and key informants. This was followed by regional workshops, a provincial consultation and a strategy meeting to synthesize all of the information gathered. The conclusions were then published in a report released in 1989 (OPHA, 1989).

With regard to the relationship between literacy and health, the report concluded that "virtually all health-related aspects of people with limited literacy skills are worse than for others" (OPHA, 1989). The report also concluded that literacy has both a direct and indirect impact on health. It directly contributes to such problems as incorrect use of medications, not following medical directions, error in administration of infant formula and safety risks. Indirectly, "illiteracy leads to poor lifestyle practices, stress, unhealthy living and working conditions, and results in lack of access to health information and to inappropriate use of medical and health service" (OPHA, 1989). According to the authors of the report "it also frequently results in unemployment and in poverty" (OPHA, 1989), all of which have major detrimental impacts on health, as outlined in the report. They in fact suggest that the major impact of illiteracy on health is indirect rather than direct.

With regard to what is being done to ensure that people who have difficulties with reading, writing and using numbers will live healthier and safer lives, the report concluded that although there is some awareness of the issue among people in the public health and literacy fields in Canada, and there are some initiatives in place, there is much more that needs to be done.

They suggest that there is a need for Provincial and Federal Government policy, for a range of activities and commitments by organizations to ensure equitable access to information and for a body to ensure coordination. Among other things, they recommend that **governments**: improve the educational system for young people; develop an adult education and training system; create policy and funding commitments to ensure adults have access to a variety of literacy and learning opportunities in their home communities; support public participation in the health care system; strengthen community health services; develop and coordinate public health policies in a variety of sectors; ensure information and materials provided by the government are written in plain language; provide incentives to organizations that attempt to make information more accessible to people with low literacy skills; encourage and fund projects aimed at increasing accessibility of information; and ensure attention be paid to literacy when health promotion strategies are developed.

According to the report, **organizations** involved in health-related matters should: analyze the distribution of the information which they disseminate; develop policies to ensure improved access to health information; involve consumers in the process of reviewing and developing information; ensure adaptation of information to the cultural backgrounds of those who are to receive it; inform the broader community of the nature of the relationship between literacy and health; and "encourage and promote governmental and organizational commitment to achieving literacy and health for all, equitable access to information and creating environments which promote health and safety" (OPHA, 1989)

Finally, the report recommends giving an organization the mandate to stimulate and coordinate policy and action in relation to literacy and health. Such a **coordinating body** would: disseminate the work done in phase I of the project; stimulate commitment of governments, organizations and individuals to change; develop and deliver training; consult and advise community groups and service providers on literacy issues and related matters; make linkages with organizations and activities; encourage research and demonstration projects by supplying communities with resources and expertise; and, encourage and facilitate mechanisms for joint actions.

The project is currently in a second phase which is attempting to implement these recommendations focusing particularly on groups such as Natives, franco-Ontarians, people with disabilities, senior citizens and immigrants who have unique concerns about literacy and health.

Contribution of LSUDA Survey

Given this background, what contribution, if any, can the Survey of Literacy Skills Used in Daily Activities make to the attempt to improve health through literacy in Canada?

There are in fact several ways in which the survey can make a contribution.

First, and perhaps most obvious, the survey provides people working in the health field with more meaningful and reliable estimates of the **extent of illiteracy** in Canada. The OPHA project relied on the only estimates available in 1987, those provided by the Southam Literacy Survey (Creative Research Group, 1987).

The survey also provides health workers with reliable information on the **distribution of illiteracy** in the population of Canada. The Southam survey was not able to provide such information because of the small sample size and the manner in which the sample was generated. This information should be extremely useful in helping to target initiatives in literacy in health. On the other hand, it should be recognized that the LSUDA Survey did not cover some of the key groups, such as Natives and older adults, which the OPHA project feels need special attention.

Nevertheless, the survey does provide a **methodology** which might in fact be used or adapted to provide useful information about the extent of illiteracy in those special groups.

However, even if such studies are not carried out, there are some **data** in the survey which could be useful to people working in the field of literacy and health in Canada. For example, the survey contains questions on eye/visual trouble and hearing problems, as well as speech, learning or other disabilities. In addition, a number of the items used to measure literacy have direct application to health concerns (for example, ability to read a medicine label).

The survey also provides some useful information on the **determinants of illiteracy** which may be helpful to those concerned about health and literacy issues. Although a survey such as this can never definitively identify and test causes of phenomena, they can at least give some useful hints. For example, the analysis in this report suggests that the age when one of Canada's official languages was learned may affect the acquisition of literacy skills. Such hints can be very helpful indeed, especially if they are confirmed in other studies.

In addition, the survey identifies some **opportunities** for intervention that may be helpful to health workers. For example, the finding that immigrants at low literacy levels are more dissatisfied with their skills than people born in Canada suggests that immigrants may be especially receptive to efforts to improve literacy skills in general and health literacy skills in particular. Alternatively, more and different kinds of efforts may be required to reach the Canadian-born population with low literacy levels.

The survey is also helpful in identifying **types of training programs** that may be well received. For example, it is useful for health workers to know that thirty-seven percent of respondents with self-identified inadequacies reported that a "program that teaches you to read instructions such as on medicine bottles or packaged goods" would help them in their daily activities. Similarly, the finding that almost half of the respondents preferred a teacher from a local school to provide literacy training might suggest the need for health workers in the literacy area to collaborate with teachers in delivering programs.

Finally, the survey may be helpful in **stimulating action** on literacy issues in Canada. It is clear that literacy and health is only part of the picture and that health workers are only some of the players. If the problem of literacy is going to be resolved, it is essential that we all work together. Hopefully, this survey will contribute to our doing so. At the very least, it should be able to raise the **level of awareness** of people working in the health area and others in Canada regarding the issue and the need for common action. I also hope that this paper will raise the level of awareness of people working outside the traditional health field regarding concerns and activities in the health field related to literacy and thereby stimulate you to join hands with us in achieving health for all Canadians through improved literacy.

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5. Literacy and Old Age in Canada: The Results of the LSUDA Survey

By
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Literacy and old age in Canada

Since literacy is widely acknowledged as being an important ingredient in the quality of life people enjoy, the survey's results are alarming. They show that two-thirds (65%) of Canada's elderly, representing around 2,000,000 people, experience some degree of difficulty with printed material ("older" Canadians are those aged 55-69 years as the survey excluded Canadians over 70 years). This low level of functional literacy will pose a major problem in years to come as this cohort grows older. The extensive lack of literacy found among older Canadians is far greater than for Canadians of younger ages, as table 1 testifies.

Table 1

The reading levels of various Canadian age groups

	Reading level			
Age	Level 1	Level 2	Level 3	Level 4
25-34	2%	5%	17%	76%
35-44	3%	6%	19%	71%
45-54	6%	15%	28%	51%
55-69	15%	21%	29%	35%

Source: *Statistics Canada. Survey of Literacy Skills Used in Daily Activities. Levels 1 to 4 are associated with increasing reading abilities.*

Note: *Excludes persons who reported having no skills in either of Canada's official languages.*

The reading difficulties found among the elderly is cause for great concern. However, looking ahead, the fact that younger generations exhibit higher levels of literacy means our future older generations are less likely to be exposed to the problems associated with an inability to read to the same extent today's older generation is. Consequently, barring remarkable advances in literacy demands and standards in the years ahead, the literacy problems of future generations of older Canadians should be partially self-correcting. But, even among present 25-34 year old, one quarter have difficulty reading. This still-very-high share represents the floor level of literacy for future older Canadians if no action is taken to improve literacy at all age levels.

There are many reasons why older Canadians have lower levels of literacy. The present older generation was born between 1920 and 1935, and as a result many had their schooling interrupted by the Great Depression and World War II. Additionally, the many immigrants who came to Canada did not have available to them the range of language programs and assistance now provided.

The period prior to the 1950s also represented a less diversified and complex economy that placed an emphasis on agricultural and manual labour that demanded few reading skills. It was easier in previous times to find a job and make a living without being able to read. Also, the requirements of the family farm brought about seasonal demands for child labour which in turn interrupted schooling.

The simple passage of time also erodes literacy skills. Those not required to use their reading skills, particularly at work, will find a natural erosion taking place from the day they leave school. Moreover, as technological change, advances in knowledge, complicated hierarchical work structures, and urbanization have led to a more sophisticated and complex way of life, the standards, or norms of literacy have increased. A basic level of literacy in 1940 no longer qualifies as basic in 1990. This trend will continue, and probably even quicken, so it is necessary to recognize that the assessment and promotion of literacy will be measured against dynamic, and not static benchmarks. What is passable today may not be passable tomorrow; consequently, people will experience measured literacy deficits as they age, unless conscious efforts are made to continually upgrade literacy.

Implications

What are the main consequences of the poor level of functional literacy found among older Canadians? It is important as aging people confront conditions of deteriorating health that they have the ability to read material informing them of healthier practices. Never before in history has so much material on preventive health care been available to a population. Yet only those who can read and comprehend, and have confidence in the printed word, will benefit from this expanding health knowledge. Curative and acute health care also require literacy, such as being able to find proper medical services, reading prescriptions and other medical instructions, understanding what is available under provincial health care schemes, reading contracts and forms for extended health care services and so on. Expensive institutional care is the most likely alternative available for people unable to care for themselves.

In the face of retirement, a person's financial situation changes requiring many decisions to be taken, such as: application for government Old Age Security benefits and possibly the Guaranteed Supplement; election or not of early Canada/Quebec Pension Plan Benefits; election of provisions under applicable private pension schemes; conversion of any RRSPs; and the important tax implications of the decision taken. Making and understanding these financial decisions is made much easier if a person can read documents and understand what they sign.

Retired people will be faced with more leisure time. The enjoyment of filling these longer leisure hours will be greatly enhanced if a person is literate. Enjoying newspapers and the many varied and specialized magazines available today, attending adult courses, following hobbies, understanding travel literature all require functional literacy. Even T.V. watchers will benefit from being able to read the T.V. listings. As technology advances, many leisure and household goods become more complicated to set-up and operate. Automobiles, telephones, home sound systems, security systems, bank card machines, micro-wave ovens, video-recorders and cameras are only a few of the items that can be more easily operated and fully enjoyed after a careful reading of manuals.

As the Canadian population ages, it is estimated that the over-65 group will comprise over one-quarter of the electorate in 30 years time (as opposed to 16% today). The political force of this bloc of voters will be significant. It will be even more necessary than today to ensure that these electors are able to follow the issues, and do not effectively disenfranchise themselves due to the inability to read. It is not only important to the individuals in their role as citizens, it is also important to society since good public policy can only be achieved through the participation of an informed electorate. And it is most likely that public choice decisions will be become more, and not less, sophisticated in the future as nations become more highly integrated and inter-dependent.

These are only some of the implications of literacy for the elderly. Throughout their lifetimes, people unable to read develop informal supports to assist them in dealing with this inability. However, aging represents a time of change. Support once provided by spouses, children, relatives, friends and neighbours slowly disappears. Children grow up and move away, elderly people retire to different neighbourhoods, and relatives, friends and spouses pass away. As this happens, older people may find it increasingly difficult to replace these supports except through institutional and professional home care.

Strategy for increasing literacy

What can be done to improve the literacy levels of older Canadians? One Voice-The Canadian Seniors Network, is a group of elderly Canadians who reacted quickly to the results of the LSUDA survey. Their first action was to organize a national conference in 1990 to develop a strategy for dealing with the low level of literacy found within their members. One of the main recommendations of the conference was to establish a Canadian Coalition for Older Adult Literacy consisting of 30 individuals drawn from various sectors of interest. Following the conference, a Task Force was struck to examine how this recommendation could be implemented, and its subsequent report set the terms of reference and schedule of work for the coalition.

Two guiding objectives were spelled out: i) "to raise literacy levels among older Canadians, primarily by increasing literacy training among seniors", and ii) "to create a supportive system in our communities to sustain seniors who, for whatever reason, are not literate." The Task Force report, endorsed by One Voice, recommended a three-year strategy for the Coalition. In the first year, the Coalition is to be set up and a plan for literacy programming developed. During year two, the program delivery mechanisms and their promotion are to be designed and established. In year three, with the programs in place, an awareness campaign is to be undertaken to promote the uptake of the literacy training programs.

The results of the LSUDA survey conducted by Statistics Canada awakened a large number of Canadians to a pressing societal problem. Among seniors it provided an impetus to reduce the remarkably low levels of literacy found among them. What is particularly gratifying about this response is that seniors themselves took the initiative to design and implement activities to increase literacy among their numbers. Although government funding will be instrumental in supporting some of the initiatives, the response is a tribute to the powerful role that volunteerism plays in Canada.

Reference

One Voice, *A National Literacy Strategy for Older Canadians*

6. Functional Illiteracy: Economic Costs and Labour Market Implications

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Introduction

Illiteracy in Canada is not a problem confined to those individuals who are virtually devoid of the most basic capacity to read and write. This group constitutes less than 10 percent of the total adult population. They might be referred to as profoundly illiterate. However, there is an additional 30 percent of Canadians who experience some degree of difficulty in using their reading and writing skills in the workplace and at home. A recent study by Statistics Canada (1990) distinguishes two levels of difficulty -- a limited ability to use printed material and an ability to use only non-complex materials. Functional illiteracy has cost implications for individuals, for their employers and for society at large. Moreover, these costs appear to have increased in the 1980s as the relative labour market position of the functionally illiterate has deteriorated. It is these economic and financial impacts of illiteracy on which we focus in this article. There are many other dimensions of the problem which are beyond the scope and expertise of the authors.

Before dealing with specifics, it is important to note initially that the goal of functional literacy in the workplace -- the absence of difficulties in the on-the-job application of reading and writing skills -- is a moving target because of the changing nature of the skills required to function effectively in the job market. The level of reading and writing skills required for most occupations and tasks has been increasing over the last 50 years and is likely to continue to do so.

Mikulecky (1990) has argued, for example, that whereas a grade four level of education was required for entrance into the military during World War II, entry now requires a high school diploma or its equivalent. He also contends that about 90 percent of jobs require two to three hours of reading on a daily basis and that about 70 percent of that is at a grade 9-12 level of difficulty.

One consequence of functional literacy being a moving target is that, as job skills become more sophisticated and technically complex, the assessment of success in achieving literacy targets becomes very difficult. An objective appropriate 10-15 years ago may no longer be acceptable. It also implies that the costs of not increasing the proportion of the workforce with those skills will rise over time.

Economic costs of illiteracy

The economic costs of functional illiteracy can be divided into three groups – those experienced by the individual, those faced by the firm, and those borne by society. Since very little work has been done to provide a quantitative estimate of these impacts, the primary focus is on specifying the particular types of costs imposed by illiteracy.

(i) Costs to the individual

Individuals who are functionally illiterate experience a variety of costs. Their income levels are below average, both because the skill levels required for the jobs they fill are below average and because the range of jobs open to them is more narrow[1]. These factors also lead to above average unemployment and reduced labour market mobility (occupational and geographic) for those who are functionally illiterate. These consequences of illiteracy are examined in more detail later in this article.

In an economy in which the minimum literacy and numeracy skills requirements have been increasing and are expected to continue to do so, those who are functionally illiterate will be less and less able to compete effectively for jobs. As well, the combination of increasingly information-intensive employment (especially in the service sector) and greater technical sophistication in the skills required, means that those with basic literacy skills deficiencies will have a diminished capacity for initial job training and, most critically, retraining. This dooms them to fall farther behind in the competition for gainful employment.

A study by Drouin (1990) notes that the pace of technological change is drastically influencing the period for which an individual's workplace skills are usable. It is contended that the obsolescence of specialized skills occurs within 3 to 5 years from attainment compared to a 7-14 year span just 10 years ago. Technological change, which is a challenge to most people in the workforce, can be disastrous for those who are severely handicapped in trying to upgrade and update their skills.

Before leaving the topic of costs to the individual, it should be noted that there are also psychological impacts borne by functionally illiterate people. The damage to self-image and perceptions of capability to adapt to changing job requirements can be substantial. Social problems are also a potential outcome of this factor. These social and psychological consequences can have negative economic consequences for those individuals. These can show up in absenteeism, poor work performance, and other facets of weak job attachment.

(ii) Costs to firms

The impact of functional illiteracy is not felt exclusively by individuals. The firms which employ them also are affected and some to a potentially very significant degree. In fact, a study done three years ago by the Canadian Business Task Force on Literacy (1988) estimated that the annual cost to Canadian businesses from lost productivity due to illiteracy was $4 billion. Even if the estimate is not an accurate one, it provides an order-of-magnitude estimate of consequences for employers of illiteracy in the workplace[2].

DesLauriers (1990), in a recent Conference Board of Canada survey of Canadian businesses with 50 or more employees, found that about 70 percent of their respondents claimed to have experienced some problems in their operations as a result of workplace illiteracy. The areas of firm activity for which problems were most serious were the acquisition of new or advanced skills, training in general and the introduction of new technology.

The specific types of negative impacts that were mentioned most frequently were productivity losses, errors in inputs and processes, reduced product quality, and problems in job reassignment. Other less frequently mentioned difficulties included health and safety problems, higher job turnover rates and absenteeism.

These impacts ultimately translate into higher production costs for firms and reduced competitiveness. The focus in the Conference Board survey was on current and past difficulties. However, functional illiteracy, by reducing the adaptability of firms to new technology and production techniques, also diminishes the capacity for productivity improvement in the future. In other words, not only are current productivity levels lower than they otherwise would be, but potential increases are also dampened. This imposes a serious burden on firms which have to function in an increasingly competitive and technologically advanced international economy.

(iii) Costs to society

Employees and employers are not the only losers from illiteracy. Society at large suffers the effects as well. The economic costs include forgone output due to lower productivity in the workforce, higher prices for goods and services as the result of increased production costs, and higher levels of income transfers to those who are unemployed or underemployed because of skill deficiencies. Difficulties with literacy and numeracy can also translate into higher costs for training programs supported by the public purse.

It is important to point out that the costs listed above for each of the individual, employers, and society are not all additive. For example, the higher production costs incurred by firms may be passed on to consumers in higher produce prices. That element of costs transferred to buyers is not a burden for the firm. The portion of the costs absorbed as lower returns to owners is, however, a net cost to the firm.

The key point is that the economic and financial consequences of inadequate literacy and numeracy skills are shared widely in society. Whether or not the appropriate figure is $4 billion annually, if 40 percent of the adult population in Canada experiences at least some degree of difficulty with job-related reading and writing activities, the correct number is likely to be a significant one. Since the costs are also distributed widely, there is good reason for the private sector (business and labour) and the public sector to contribute to solutions.

Who pays for solving the problem?

The issue of how the costs for solving literacy problems are shared is not a straightforward one for several reasons. Costs for firms and for society are not experienced in a uniform manner across industry sectors or over regions. Firms and industries face a different degree of severity of the problem depending, in part, on locale. Labour market conditions vary from one part of the country to another. Firms with large pools of relatively skilled workers to draw upon can selectively eliminate those employees or potential employees who have inadequate levels of literacy and numeracy. As well, individual firms will vary as to the range and complexity of skills required by their employees. These and other factors will influence their willingness to contribute to the solution of the literacy problem.

There is, in the economy, a spectrum of skills which workers have and which firms and industries will require. For example, technology and knowledge-intensive business service firms will draw extensively from the upper end of the spectrum. They will hire individuals with a significant level of formal training and with complex and sophisticated skills. As long as there is a reasonable supply of individuals with the skills in hand or with a capacity to attain readily the job-specific ones required, firms/industries hiring them will not feel the pressure to contribute to skill enhancement programs other than those of immediate relevance to their own workforce. If an anticipated broad skills shortage were to emerge in the labour market, this situation would certainly change.

Similarly, firms requiring low skills (for example, many in the primary harvesting and processing sectors) will have a limited incentive to contribute to solutions for functional illiteracy. However, these firms also tend to operate in highly competitive product markets. The pressure for technological change in order to remain competitive is ongoing. The introduction of new technology brings with it a need for improved skills by employees who will operate the new equipment. Hence, those firms will have to consider skills enhancement for their workers or replacement of some of them by others more qualified. General labour market shortages will hamper the latter approach.

In both of the above examples, the current cost to the individual firm may be relatively low. Hence, even if they perceive that problems occur because of functional illiteracy among their employees (by no means a necessary conclusion to be drawn) the cost imposed on the firm may not be as significant as the expenditure on literacy training required to solve the problem. This may help explain why, among the firms surveyed by the Conference Board of Canada, only about 25 percent have a systematic human resource policy or program and fewer still have programs specifically aimed at functional illiteracy.

This also is an important part of the explanation for why the firms or industries most actively involved in programs of support for improving overall literacy are those with a strong vested economic interest in reducing illiteracy. Canada Post, the Canadian Booksellers Association, and the Advertisers Association of Canada are three of the most actively involved firms/organizations nationally.

An exclusive focus on current relative costs and benefits of investing in improved functional literacy carries with it a danger of ignoring future labour requirements. If the level of literacy required to function effectively in the job market continues to rise, the projected shortage of most types of skills will become a severe constraint on virtually all industries' capacity to maintain and improve their competitiveness. In other words, the future demand for skills will involve a movement along the spectrum to greater complexity and technical sophistication. If the capacity to supply those needs is not improved now, the future requirements will be increasingly difficult to meet for all firms, irrespective of locale or current demand.

There is also a geographic dimension to this problem. As the Statistics Canada survey showed, the incidence of functional illiteracy was highest of all the regions of Canada in the Atlantic Provinces. While in Canada as a whole, 38 percent of the population had at least some problems with functional literacy (including 7 percent with essentially no ability to read and write) the comparable figure for Atlantic Canada was 48 percent. Within the region, the province of Newfoundland had a staggering 61 percent of its adult population in that category. In the other three provinces the figure was about 43 percent. These were the only provinces in which functional illiteracy problems existed for more than 40 percent of the adult population.

Although no simple cause-effect relationship can be posited, it is hardly surprising that the Atlantic region has the lowest levels of productivity in the country (about 20 percent lower than the national average), the slowest pace of technological innovation, the highest unemployment rates and the lowest average income levels. On the one hand, higher than average functional illiteracy levels may be primarily another symptom of the broad economic problems of the region. The lack of development of the region may, by encouraging the out-migration of the better educated and more highly skilled, leave Atlantic Canada with a smaller proportion of the labour force with skill levels in the upper end of the spectrum. In short, higher rates of illiteracy result from the absence of growth and development levels comparable to national ones. On the other hand, there are many who would argue that the lower level of skills in the Atlantic Canadian labour force is itself a factor in retarding economic development. It leaves a workforce less capable of meeting existing skills requirements and of adapting to changes in those requirements. This weaker human capital resource base makes the region a less attractive one in which to invest or expand. This in turn contributes to productivity gaps and poorer economic performance.

This does not imply that greater public and private sector investment in education and training and, specifically, in improving literacy skills will inevitably and automatically transform a lagging economy into a leading one. However, investment in human capital is an important part of the solution to the economic problems of Atlantic Canada (and of other parts of Canada). For the expenditures on specific skills development to be more effective, there must be an improvement in the capacity of those needing those skills to attain them. In other words, a significant improvement in literacy skills is a necessary component of any overall training and skills upgrading strategy.

The declining labour market position of the poorly educated

Canadians without adequate literacy and numeracy skills have always been disadvantaged in the labour market. In the 1980s, however, their position deteriorated even further. Opportunities to find stable, well paying employment for the poorly educated became increasingly scarce. The labour market appears to have been increasingly segmented into good jobs and bad jobs.

This increasing marginalization of the poorly educated was manifested in higher unemployment rates for this group relative to the overall unemployment rate, lower participation rates, and lower relative employment incomes. This reflects relative supply and demand conditions on the labour market, in particular the reduced demand for the poorly educated because of structural shifts in labour demand and increased skill requirements for many jobs.

Industries and occupations which in the past have employed large numbers of poorly educated workers in most cases experienced little growth in employment, and in some cases, significant declines in the 1980s. Employment growth was concentrated in industries and occupations where average levels of literacy are high. In addition, within those industries which have traditionally employed large numbers of the poorly educated, there has been a shift in occupational mix to the detriment of the poorly educated. Similarly, within occupations which in the past may have required little formal education, the poorly educated are finding themselves increasingly disadvantaged as these occupations require increasing literacy skills.

In order to track over time the relative labour market performance of those with inadequate literacy skills, time series data on literacy levels and labour market variables are needed. Unfortunately, the results from Statistics Canada's Survey of Literacy Skills Used in Daily Activities (LSUDA)[3] are available for only one year – 1989. However, because of the strong correlation between formal educational attainment and literacy, educational attainment data, which are available as a time series, can serve as a proxy for literacy and numeracy skills.

For example, 88 percent of those with no schooling or only elementary education do not have the reading skills to meet most everyday reading demands (levels 1, 2, and 3), compared to only 31 percent of Canadians with higher levels of educational attainment. Those with no schooling or elementary education represent 55 percent of Canadians who have difficulty dealing with printed materials (level 1), yet comprise only 10 percent of the Canadian population aged 16-69. This strong positive relationship between formal educational attainment and literacy levels is also found, although to a slightly lesser degree, for numeracy levels[4].

The incidence of illiteracy and innumeracy is thus much higher among the poorly educated, particularly those with less than 9 years of formal schooling. For this reason, discussion will focus on the labour market experience of those with less than 9 years of formal education and the terms illiterate and poorly educated will be used interchangeably, even though it is recognized that certain individuals with little formal schooling may be able to cope very well in terms of literacy skills.

The consequence of illiteracy for labour market performance

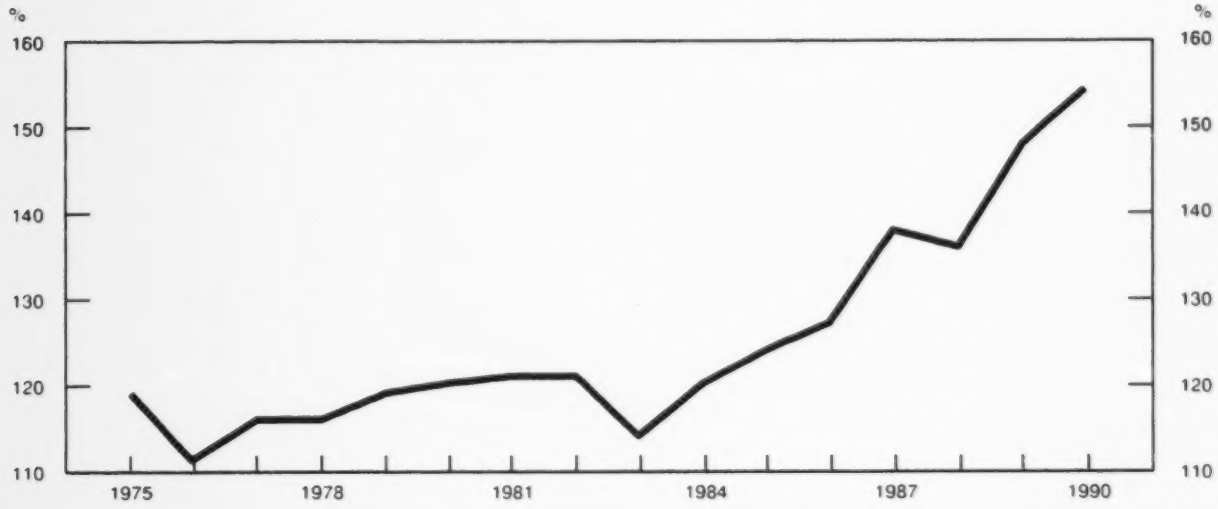
Workers with poor literacy and numeracy skills tend to have significantly higher unemployment rates, lower levels of labour force participation, and lower employment income than other workers. More importantly, the gap in these variables between the poorly educated and the overall population have been growing in the 1980s. The poorly educated are also much less likely to move to another province than those with more education.

In 1990 the unemployment rate of those with less than nine years of formal education was 12.5 percent, compared to the overall unemployment rate of 8.1 percent, indicating that the unemployment rate of the poorly educated was over one and one half times (1.54) the overall rate[5]. In 1981 the unemployment rate of the poorly educated was only 1.21 times that of the overall rate. The 1980s thus saw a marked increase in the relative unemployment rate of the poorly educated. The poorly educated are experiencing greater difficulty in finding employment relative to those with stronger educational backgrounds, a trend which was not occurring in the latter half of the 1970s (chart 1)[6]. This overall trend has affected both sexes, all major age groups, and all provinces (table 1). The largest relative deteriorations in unemployment rates were for poorly educated females, persons under 45, and residents of Atlantic Canada, Quebec and Alberta.

Chart 1

The relative unemployment rate of the poorly educated

(Unemployment rate of those with less than 9 years of schooling as a proportion of overall rate)



Source: Labour Force Survey, Statistics Canada.

Table 1

Labour market performance of the poorly educated by gender, age group and province

	Unemployment rate for those with <9 years educational attainment				Participation rate for those with <9 years of educational attainment			
	Percent		As a percentage of the overall rate for each group or province		Percent		As a percentage of the overall rate for each group or province	
	1981	1990	1981	1990	1981	1990	1981	1990
Total	9.1	12.5	121.3	154.3	44.1	35.5	68.1	53.0
Males	8.8	12.2	125.7	150.6	61.3	48.1	78.2	63.4
Females	9.9	13.0	119.3	160.5	26.7	23.7	51.6	40.6
15-24	22.1	24.8	167.4	193.8	48.7	45.0	71.8	65.3
25-44	9.9	15.4	159.7	200.0	69.2	67.2	86.2	78.3
45 + over	6.5	9.2	147.7	161.4	35.0	27.6	75.1	60.9
Atlantic	15.3	23.5	133.0	183.6	37.8	31.4	67.5	52.2
Newfoundland	18.5	28.4	133.1	166.1	35.8	30.6	68.1	54.6
P.E.I.	--	--	--	--	44.4	40.4	75.6	61.2
Nova Scotia	14.0	16.2	138.6	154.2	38.1	30.5	66.5	49.1
New Brunswick	15.0	20.7	130.4	171.0	37.8	31.0	67.3	51.8
Quebec	11.3	14.8	109.7	146.5	42.7	34.7	69.5	54.0
Ontario	7.1	8.3	107.6	131.7	48.4	37.6	71.6	54.2
Prairies	5.1	9.9	113.3	139.4	44.9	36.4	65.5	52.1
Manitoba	7.0	9.4	118.6	130.6	44.2	35.5	68.2	52.5
Saskatchewan	--	9.6	--	137.1	41.0	34.6	64.6	51.8
Alberta	4.4	10.7	115.8	152.9	48.0	38.0	66.4	52.7
British Columbia	8.5	11.4	126.9	137.3	39.5	35.4	60.7	53.6

Source *Labour Force Annual Averages, 1981-88, cat. 71-529, March 1989, Statistics Canada and Labour Force Annual Averages, 1990, cat. 71-220, February 1991.*

The poorly educated participate in the labour force considerably less than the overall population. In 1990, their participation rate was 35.5 percent, compared to 67.0 percent for the total source population. In other words, the participation rate of those with less than 9 years of schooling was only 53.0 percent that of the overall population. This again reflects the limited employment opportunities available to the poorly educated because of their lack of skills. There was a significant decrease in the participation rate of the poorly educated in the 1980s, from 44.1 percent in 1981 to 35.5 percent in 1990. When combined with the increase in the overall participation rate, it has lead to a considerable fall in the ratio of the participation rate of the poorly educated to the overall participation rate – from 68.1 percent in 1981 to 53.0 percent in 1990 (chart 2). This development is further evidence of the increasingly difficult labour market situation faced by those with limited skills. Again, the poorly educated of both sexes, in all major age groups and in all provinces have been affected (table 1).

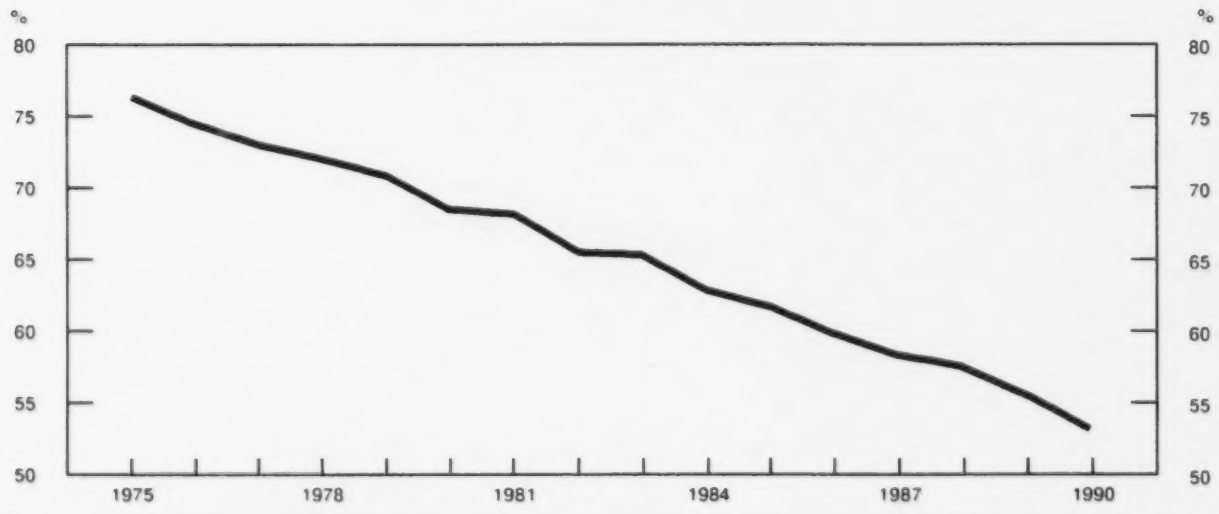
Poorly educated workers also have employment incomes well below average. Data from the 1986 census (Statistics Canada, 1989) show that in 1985, all male workers with less than grade nine earned 80.4 percent of the average male employment income while all female workers with less than grade nine earned 75.3 percent (chart 3). The 1981 census showed that in 1980 male workers with less than grade nine earned 83.5 percent of the average male wage, while all female workers earned 79.2 percent. In other words, between 1980 and 1985 the relative earnings of both poorly educated males and females deteriorated. Because of the declining relative participation rate and the increasing relative unemployment rate for the poorly educated in the latter half of the 1980s, it is likely that their relative employment income position continued to deteriorate during this period.

A very important characteristic of the poorly educated is that they are much less likely to move in search of economic opportunities. Chart 4, based on data from Statistics Canada's Labour Market Activity Survey, shows that in 1986 the incidence of interprovincial migration for the poorly educated between the ages of 16 and 69 was 0.2 percent. This was one quarter the overall rate of 0.8 percent. Because of their lack of literacy skills, the poorly educated are less able to obtain information on opportunities in other provinces and have less self-confidence to uproot themselves from familiar surroundings.

Chart 2

The relative participation rate of the poorly educated

(Participation rate of those with less than 9 years of education as a proportion of overall rate)



Source: Labour Force Survey, Statistics Canada.

Chart 3

Relative earnings of the poorly educated

(Earnings of those with less than 9 years of schooling as a proportion of average earnings of all workers)

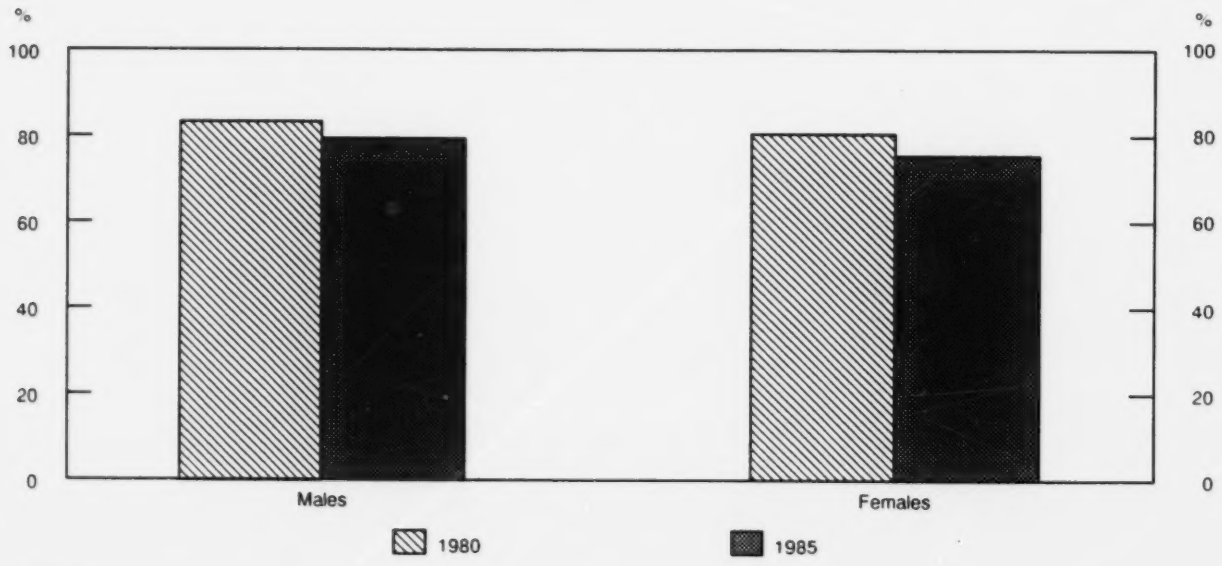
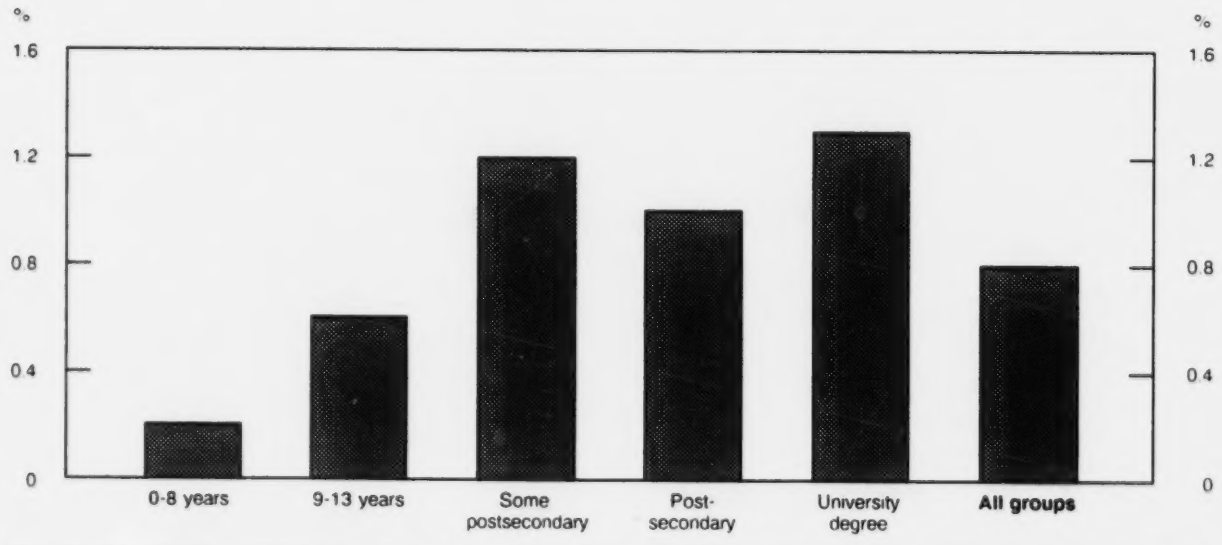


Chart 4

Incidence of interprovincial migration for population 16-69 by level of educational attainment, 1986



Source: Labour Market Activity Survey, Statistics Canada.

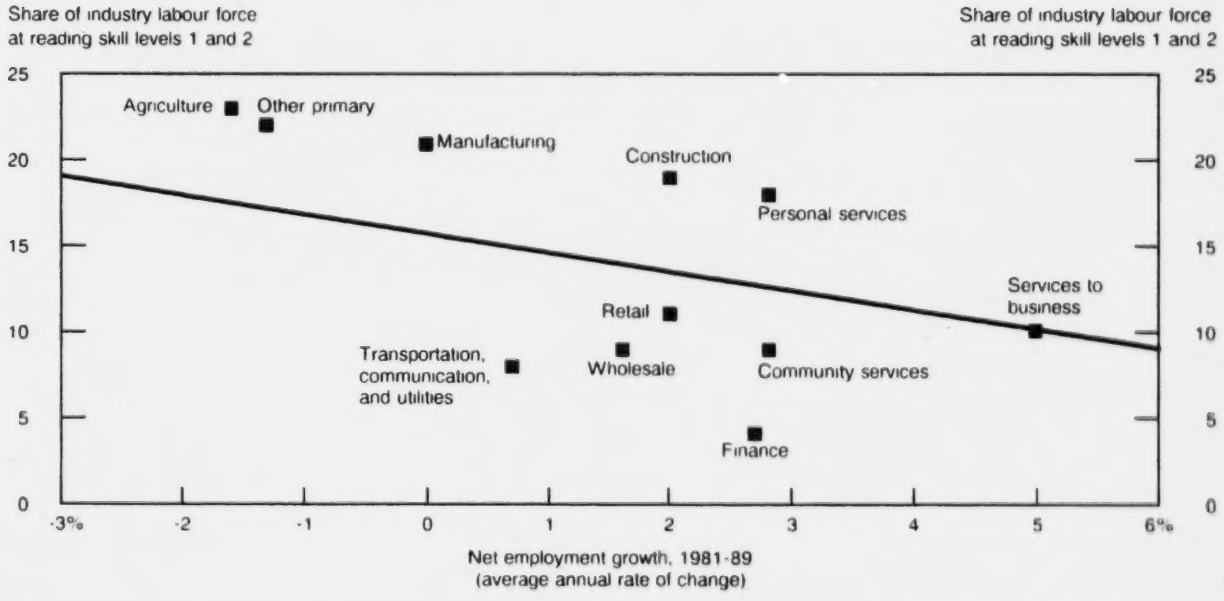
Changing labour demand conditions

The relative deterioration of the labour market situation of the poorly educated in the 1980s reflects changes in underlying supply and demand conditions. More specifically, there has been a large decline in demand for the type of skills provided by the poorly educated and an increase in demand for the types of skills provided by the better educated[7]. This structural shift in labour demand can be gauged by the trends in employment at the industry and occupation level. In the 1980s there was a strong negative correlation between industry employment growth and the relative importance of the poorly educated in the industry labour force. Industries such as finance, insurance and real estate, community services, and services to business, which have very small proportions of their labour force with low level reading skills, had very strong employment growth (chart 5). On the other hand, sectors such as manufacturing, agriculture, and non-agricultural primary industries had stagnant or declining employment levels in the 1980s. These industries have a high proportion of poorly educated workers. There were certain exceptions to this general trend. Employment growth was relatively strong in personal services and construction, two industries with above average proportions of poorly educated workers.

The trends observed in industry employment growth in the 1980s have also been evident in employment growth by occupation (chart 6). White collar occupations (managerial and professional, clerical, and sales occupations), which have very low proportions of poorly educated workers, have experienced positive employment growth. Blue collar occupations such as primary occupations, product fabricating, and processing and machining, which have a high proportion of workers with poor literacy skills, had little if any net employment growth. Indeed, two-thirds of the net employment growth between 1981 and 1989 was in managerial and professional occupations, the occupational category which has the lowest proportion of persons with poor literacy skills[8]. There are again two exceptions to this overall trend. Employment growth was near average in services and construction occupations, which both have a high proportion of poorly educated workers.

Chart 5

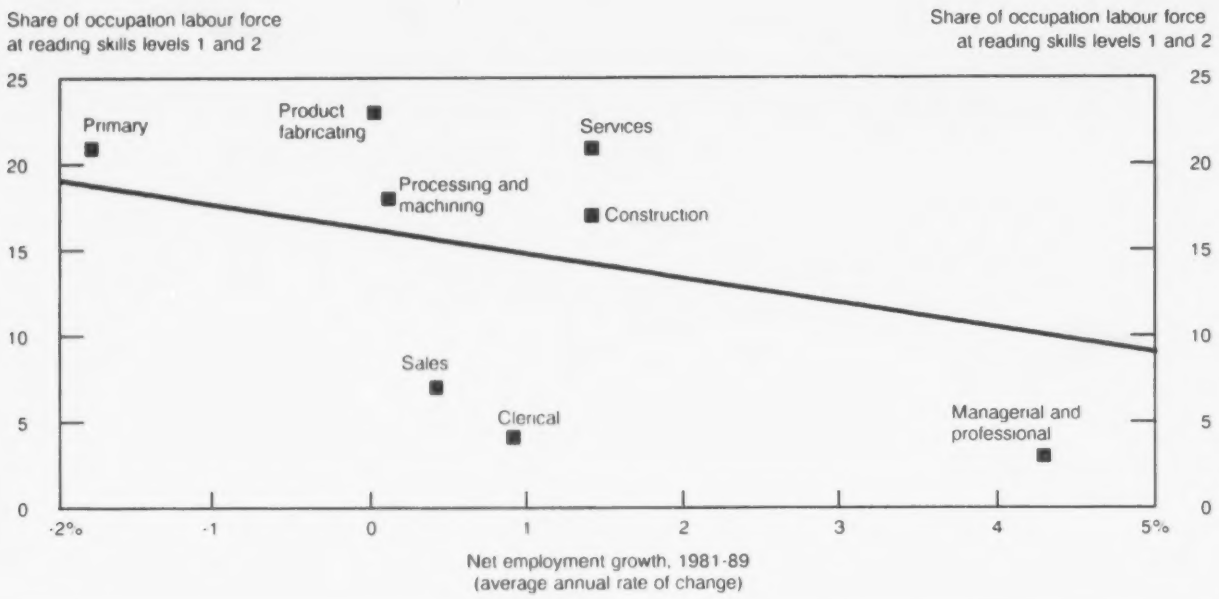
Illiteracy rates by industry and employment growth



Source: Labour Force Survey and Survey of Literacy Skills Used in Daily Activities, Statistics Canada.

Chart 6

Illiteracy rates by occupation and employment growth



Source: Labour Force Survey and Survey of Literacy Skills Used in Daily Activities, Statistics Canada.

The decreased relative importance of employment in goods-producing industries and blue collar occupations where literacy skills tend to be weak, and the increased relative importance of employment in service-producing industries and white collar occupations where literacy skills are strong, reflect structural shifts in productivity growth and changing skills requirements. As the real output growth of both the goods and the service sector was about the same in the 1980s, the weaker productivity performance of the service sector due to its lesser ability to mechanize has meant that a growing share of total employment is found in that sector. Indeed, almost all net job creation in the 1980s was in the service sector. Equally, technical change has resulted in an overall upgrading of the skill requirements for most jobs (Myles 1988). Workers in the 1990s are increasingly required to read manuals, perform numerical calculations, operate sophisticated equipment, and use information technologies.

Conclusion

The findings of this article provide strong support for the view that illiteracy represents a major challenge facing Canadian society in the 1990s[9]. Because of the economic costs of illiteracy, one of the most productive investments society can make is in the improvement of the basic literacy skills of Canadians. Moreover, given the increasing marginalization of the poorly educated in the labour market, basic equity considerations demand a greater commitment to upgrading literacy skills. Canada can no longer afford to ignore the illiteracy issue.

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Footnotes

1. The below average skill levels means that their marginal productivity - contribution to output - is lower and, hence, the returns from their contribution are lower. The narrow job range they face means their bargaining power in the labour market is weak.

2. For discussion of estimates of the cost of illiteracy in the United States see Kozol (1985).

3. The LSUDA divides Canadians into four reading skill levels. Those at level 1 have difficulty dealing with printed materials; those at level 2 can use printed materials only for limited purposes; those at level 3 can use reading materials in a variety of situations provided the material is simple, clearly laid out and the tasks involved are not too complex; those at level 4 are able to meet most everyday reading demands.

4. 78% of those with no schooling or elementary schooling are not able to handle numerical operations required to meet most everyday demands, compared to only 34 percent of Canadians with higher levels of educational attainment. Those with no schooling or elementary schooling only represented 29 percent of persons with very limited numeracy abilities (level 1), although this group comprised 9 percent of the population aged 16-69.

5. It is interesting to note that in regions where the overall unemployment rate is low, the unemployment rate of the poorly educated is quite close to the overall unemployment rate, while in high unemployment regions the unemployment rate of the poorly educated is well above the overall rate (see Table 1). For example, in 1990 in Ontario the unemployment rate of those with 0-8 years of education was 7.1 percent, compared to the overall rate of 6.3 percent, a ratio of 1.32. In contrast, in Atlantic Canada the unemployment rate of the poorly educated was 23.5 percent, compared to the overall rate of 12.8, a ratio of 1.84. Full employment conditions appear to disproportionately increase demand for the poorly educated. Skilled workers are more scarce and employers are forced to hire the less skilled and educated.

6. Data for Charts 1-2 are from Statistics Canada's Labour Force Survey (LFS). Data for Chart 3 are from the 1986 census; for Chart 4 from the Labour Market Activity Survey and for Charts 5-6 from the LFS and the Survey of Literacy Skills Used in Daily Activities.

7. The Economic Council of Canada (1990 and 1991) has drawn attention to this phenomenon. This trend has also been observed in the United States. See Blackburn, Bloom, and Freeman (1990) and Reich (1991).

8. Trends in total job openings by occupation, which includes replacement openings, do not show such a strong concentration of employment growth in managerial and professional occupations because of the existence of replacement positions in blue collar occupations.

9. Also see National Literacy Secretariat (1991) and Sharpe (1990).

7. Workplace Literacy: The Results of the LSUDA Survey

By
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Statistics Canada reports based on the Survey of Literacy Skills Used in Daily Activities provide very useful conclusions and results in dealing with workplace literacy issues. Careful review and analysis of the data will supply business, labour and education and training practitioners with important information on the skill deficits and also indicate possible strategies for dealing with the obvious skill shortage. The survey and subsequent reports will also have an important influence on many other functions, such as staffing, training, organization design, contractual relationship and so on.

Reading skills

It is important to evaluate the findings and translate them to applications that are relevant to the workplace. As an example, the survey shows that something like seven percent of Canada's adults are at reading level 1 and "are unlikely to expect that printed text will be meaningful and they are unlikely to look to text for help". For workplace managers and decision makers, this attitude has serious consequences for the performance of workers who may be required to receive, decode and act on new information or directions related to their job functions. What is equally important is that conventional methods of instruction, such as personal demonstration and verbal discussion, are being replaced by hard copy instructions or computer printouts and video screens.

Level 2 readers can use printed materials only for limited purposes such as finding a familiar word in a simple text. For workplace managers, this places emphasis on the clarity of the communications as presented, in terms of design and choice of language. We are all too familiar with problems that exist with WHMIS (Workplace Hazardous Materials Information System) documents, maintenance manuals and job procedure manuals that confuse rather than inform the reader.

Much of the information in use in the workplace today and to an increasing degree in the future is "sequential". Decision making and optional choices are being dictated by processes and control mechanisms that flow from, or are dependent on, achieved results or conditions. Consequently, level 3 readers, who may be able "to read" but need to combine information to allow them to make decisions, are very much affected by the scope of their skill to find the relevant information and how well it is presented to enable them to make decisions. Again, for workplace managers, these capabilities and the appropriate design of the information is vital in terms of productivity and quality-related decision making and performance.

Level 4 characteristics illustrate judgmental skills and critical analysis. The changing organizational design of the workplace emphasizes the participation and involvement of workers. It depends on and stresses the application and value of workers' knowledge and input. It therefore seems evident that competency at this level is an important criteria for job design and workplace organization.

What LSUDA tells us is that we are to respond appropriately to a changing work environment. The information in the assessment of the literacy skills clearly directs our attention to the quality and content of the communications methods as well as the individual competency and skills of the workers.

Numeracy skills

The results of the survey of Literacy Skills Used in Daily Activities translated to numeracy are categorized into three levels. There appears to be a strong correlation between the measured reading and numeracy skills. The results point to very similar situations and many of the same kinds of barriers to understanding the information being conveyed. The limited capability to decode and understand the numerical information and to translate it into appropriate decisions seem to be an important issue for workplace functions.

An important point is that close to twenty percent of adults born outside Canada have limited numeracy skills. For industry, depending on a potential workforce with such limitations has serious consequences. Competence and familiarity with numerical values will be an increasing requirement or job criteria. Documents, reports, control processes, performance records are but a few examples of the need to understand the meaning of numerical hieroglyphics and to utilize the information in decisions and actions.

Writing skills

The functional writing skills were assessed by simple tests of the ability to convey simple instructions and basic information by way of written notes or letters. Again, the gathered results seem to indicate a distribution of competence and capability similar to that recorded for reading and numeracy skills.

It is difficult to translate these results into significance for workplace functions, except to illustrate that such limitations do have an impact on the opportunities for individuals to participate in and contribute to the workplace organization.

The ability to take and transcribe simple meeting notes, the recording of results and observations of procedures, requests for information and assistance are all part of workplace interrelationships. Employers seeking those skills in workers are seriously limited when something like thirty-eight percent of the potential workforce does not possess satisfactory basic writing skills.

Conclusions

The survey presents employers with a set of results that appear to confirm their intuitive concerns. On the one hand, employers see a workplace that is rapidly changing due to technology and structural reorganization, and on the other hand, they are confronted with a workforce that will have difficulty adapting and functioning in the workplace of the next decade.

For the worker, the future workplace will be more complicated and filled with complex and frustrating requirements that appear threatening and challenging. The demands and the ability to function with confidence and self-reliance will be more difficult in the future.

If these two diverging views are even moderately accurate forecasts, the consequences for employers and workers are serious. At the present time "solutions" to the problems of literacy are being offered right, left and centre. Our real challenge, before we move too quickly to apply solutions and cures, is to properly understand the problem.

The survey results provide a useful beginning to evaluate the degree of skill limitations. What is now required is a reasonable and accurate assessment of the skills that will be required. In simple terms, we need a needs analysis in order to be able to seek out suitable and appropriate solutions.

8. Literacy for Workers: A Labour Perspective on Basic Skills

By
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The opportunity to breathe life into statistics which offer a literacy profile of Canada's adult population was a welcome one. Intuitively and experientially, we know that various groups in society perceive the world differently. This means that an understanding of literacy issues -- and their impact -- is linked to an awareness of the particular context within which it is housed.

A labour perspective on basic skills is rooted in the context of the workplace and the advocacy role that unions' hold as guardians of workers' rights.

Unions' stake in education and literacy

Unions have a proud tradition of excellence in education and training. For example, the building and construction trade unions -- via apprenticeship programs -- are vanguards of learning opportunities. Basic skills upgrading is seen as an expansion of this tradition by providing the foundation for life-long learning.

There is a growing awareness among labour leaders that an education strategy is key to labour's response to changing labour market patterns. Momentum for this opinion is abetted by the fact that 75% of the next decade's workforce is already out of school.

The challenges facing Canada in terms of a global market are staggering. Business has at least two ways to compete in the new economy: (1) to deskill jobs and cut costs, such as wages and benefits; or, (2) take a long-term view and make the worker central to the organization's business plan. Education and training, including basic skills upgrading, becomes critical to the high-skill strategy.

The labour movement has an interest in promoting a highly-skilled workforce as a means of attracting and maintaining jobs in Canada; however, the human contract between unions and their members is paramount.

One of the contributions the labour movement continues to make to the public discussion on literacy and adult education, is to consistently reinforce that the implications of literacy go way beyond productivity and economic growth.

A vision of a just society positions literacy as a social issue that is linked to long-standing union goals. The labour movement is interested not only in a skilled workforce, but an informed citizenry. A progressive nation is one in which its people are able to fully participate in their communities and draw on their potential to build a better life for their families. Quality of life issues cannot be divorced from any perspective on literacy as they reflect some of the human aspirations that we all share.

Given this context, it is not surprising that the trade union movement is among Canada's most strident voices of support for literacy.

Literacy in the modern workplace

In today's world, literacy means far more than the three Rs. It includes many different kinds of skills such as problem-solving, communications, and English or French as a second language.

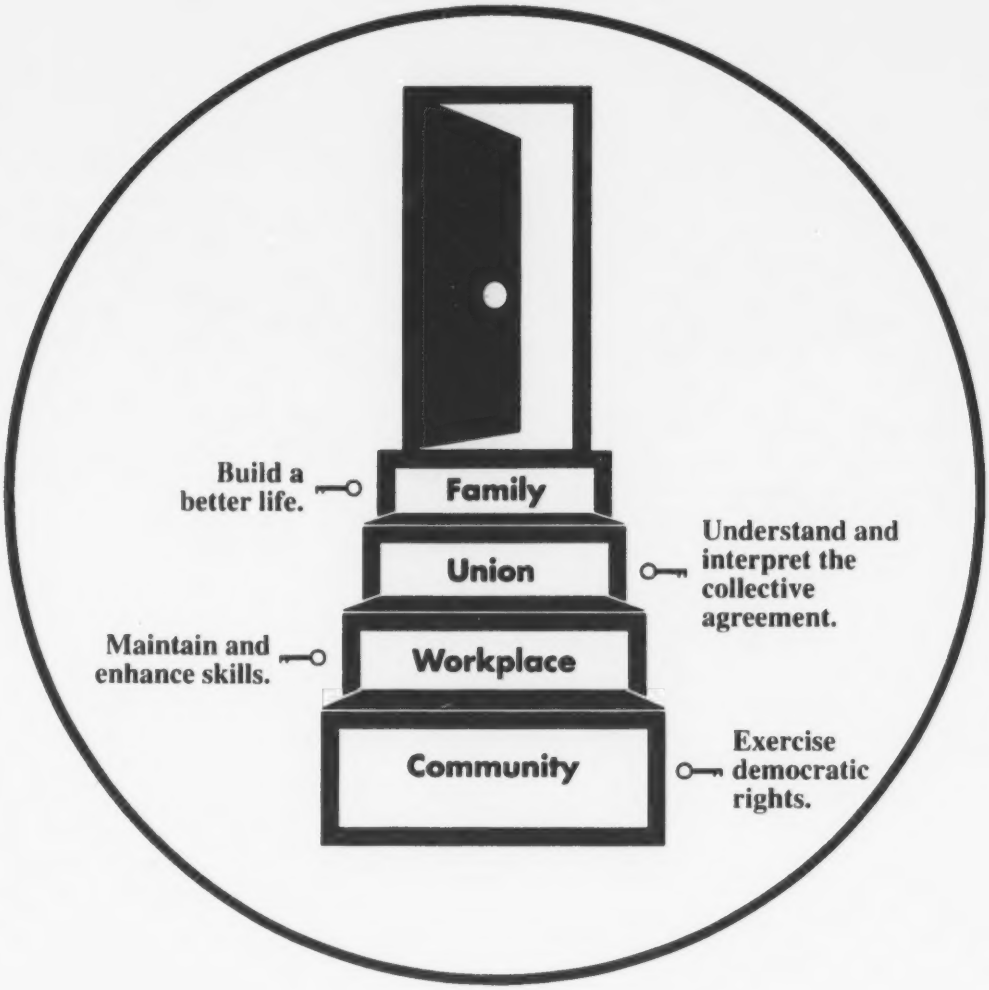
Integral to an understanding of workplace literacy is an awareness that literacy standards increase as society becomes more complicated. For example, computer literacy is now considered by many to be a key basic skill; a high school diploma is now a minimum entry-level job requirement. This simply wasn't the case 20 years ago.

How does this translate to a workplace context? In many instances, technology has changed so dramatically that previously acceptable standards of literacy are now too low. The crane industry yields an illustration. Modern cranes carry on-board computers and operators now require higher-level math in order to calculate load charts as opposed to relying on the "feel" of the machine.

Additionally, there is more work-related reading required now than at any other point in time. The introduction of Workplace Hazardous Materials Information System (WHMIS) legislation contributes to this increase. Everyone is required to read and interpret Material Safety Data Sheets as a preventive health and safety measure.

How do the statistics translate to a workplace context? Statistics can be an extremely useful tool; however, they are also subject to abuse. Special efforts must be made to ensure that the statistics related to a literacy profile of Canadian adults are interpreted accurately.

One of the most common errors made in attempting to grapple with the scope of literacy issues, is to extrapolate national statistics to specific workplaces. This practice is dangerous – as well as invalid. It cannot be assumed that since 16% of Canada's adults have limited reading skills, then 320 out of a workforce of 2000 have limited skills.



Each workplace is unique and is characterized by a particular mix of situational factors. Technological change, demographics, regional factors, and the status of the learning culture are only a few of the situational factors that must be analyzed. It is important to resist the temptation to apply broad statistics as a quick means of obtaining an instant snapshot of a specific workplace.

Following that line of logic, it also stands to reason that there is no one literacy program model that will be appropriate to every situation. A single factor, such as whether the labour-management relationship is collaborative or adversarial, may influence the type of model selected. An approach that is successful in an office setting in downtown Toronto may not work at all in a manufacturing plant in Brandon, Manitoba.

Developing a literacy program for workers requires an active search for a model that is sensitive to specific needs and circumstances.

Signs and signals

There are a range of signs and signals, common to many workplaces, that may indicate a need for basic skills upgrading...

- The local union President is concerned about health and safety. Although WHMIS training has been implemented, many still ask questions about the labels and Material Safety Data Sheets.

- Training Coordinators have noticed that 25% of those who take training have trouble completing the courses. Many show up for the first session, take one look at the course material, and never return.

- The mother tongue of over 70% of the local union membership is a language other than English or French. The union office is bombarded with requests to interpret and explain pension-related documents.

- A Steward is frequently asked for help to read and interpret the collective agreement.

- Union leaders realize that their members need to learn higher-level math and computer skills as a result of technological change.

- The Labour-Management Committee discusses a worker-centred approach to daily operations. It is recognized that this will require enhanced communications and problem-solving skills on the part of the workers.

A balanced perspective

International Literacy Year helped elevate literacy to a high-profile national interest. Emerging from that positive framework is a concern that the true dynamics of the issue -- particularly as it relates to the workplace -- are misunderstood by many.

Human nature is such that a statistical focus on skill deficiencies make it more challenging to see the forest for the trees. Many people have the impression that a shockingly large percentage of the workforce sign their name with an X and can't add two plus two. Even worse is the impression that critical thinking skills, among those who have difficulty reading or writing, are marred. These, and similar myths, act as barriers to those who wish to improve their basic skills.

Literacy should be framed within an empowering paradigm that highlights opportunities and choices for people. Unfortunately, much of the print generated has been devoid of empowerment. The blatant fostering of a disease-laden image (e.g. "stamping out the epidemic of literacy") is one such counterproductive example.

It is not helpful when literacy is promoted – wittingly or unwittingly – as the predominate solution to Canada's economic woes. A balanced viewpoint recognizes that the skills of workers is one of many factors that affect economic growth. Equally pertinent components include business investment in new equipment, work processes (that is, the way work is structured and jobs are designed), fiscal policy, and the amount of money allocated to training.

Profiles of Success

Houng:

- **a cleaner in a hospital, took a course to improve her reading and writing skills in English. She went on to retrain in nursing and to apply for Canadian citizenship.**

Marcel:

- **upgraded his math and computer skills to qualify for the technical training needed to work on mobile cranes. Improved math skills also helped him take a larger role in family finances.**

Leita:

- **an office clerk, improved her basic skills and earned a high school equivalency diploma. Six months later, she applied for a better paying position and got it.**

The promotion of a balanced perspective of literacy in Canadian society is in everyone's best interest.

The power to grow

The labour movement inherently understands that some people can read the world far better than those that can read the word. The literacy profile of Canadian adults suggests that opportunities to build on that foundation must be created.

Where possible, forging partnerships on the basis of mutual interests is a workable plan of action, providing the union is an equal partner from the outset. Labour and management have vital interests that often allow them to jointly plan for change in the workplace.

The challenge of the Twenty-First Century is to excel in the development of Canada's human resources. This vision requires a strong public and private commitment to education and training. The power to grow and thrive in the midst of change is a fundamental right of each and every Canadian.

9. Gender, Nativity and Literacy: Proficiency and Training Issues

By
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I. Literacy levels for men and women

The declaration of 1990 as International Literacy Year has focused worldwide attention on literacy and its implications for the social and economic well-being of people. But interest in the topic predates 1990. One of the major initiatives associated with the 1985 Nairobi Conference on Women was the collection of worldwide data on literacy measures for females and males . The data show that in many regions of the world, more females than males are "illiterate" (United Nations, 1985). Higher literacy figures for men are explained by the higher status of males compared to females in many countries and by low levels of economic development. When educational resources are scarce and costly, males rather than females are the ones to attend school and to complete higher levels of schooling. Since literacy and educational attainments are so closely related (see Part I: Section 3.1), these educational advantages for males translate into advantages in literacy.

As an industrial nation, Canada has an educational system which requires school attendance until residents are in their mid-teens. These requirements are the same for females and males. It is not surprising, then, to observe similarities in the literacy proficiency levels of adult females and males.

Tables 1 and 2 present the distribution of reading and numeracy skills for adult females and males. These tables use measures defined in the main study (see Part I: Sections 2.0, 2.1 and 2.2). The most severe difficulties exist at levels 1 and 2 of the reading distribution and at level 1 for the numeracy distribution. Level 1 readers have difficulty dealing with printed material and are most likely to identify themselves as people who cannot read. Persons at level 2 can use printed material for limited purposes such as finding a familiar word in a simple text. Fifteen percent of Canadian adult females and fourteen percent of adult males have these very limited literacy skills. The majority, over 60 percent, of both women and men, can meet most reading demands (level 4).

Adult females and males also are very similar in their numeracy skills. Table 2 shows that 13% of women and 15% or men have very limited numeracy abilities (level 1).

Table 1

Percentage distribution of adults aged 16-69 showing reading skill levels by gender

	Females	Males
Population (in thousands)	8,893	8,812
Reading skill level		
Percent(a)	100%	100%
Level 1	5%	5%
Level 2	10%	9%
Level 3	22%	23%
Level 4	63%	63%

Source: *Survey of Literacy Skills used in Daily Activities, Statistics Canada, 1989.*
Note: *Excludes persons who reported having no skills in either of Canada's official languages.*
(a) Figures may not sum to exactly 100 percent because of rounding.

Table 2

Percentage distribution of adults aged 16-69 showing numeracy skill levels by gender

	Females	Males
Population (in thousands)	8,644	8,543
Numeracy skill level		
Percent(a)	100%	100%
1	13%	15%
2	26%	23%
3	61%	63%

Source: *Survey of Literacy Skills used in Daily Activities, Statistics Canada, 1989.*
Note: *Excludes persons who reported having no skills in either of Canada's official languages and persons whose reading skills were too limited to take the main numeracy test items.*
(a) Figures may not sum to exactly 100 percent because of rounding.

Over sixty percent can deal with material requiring simple sequences of numerical operations to be performed (level 3).

The 1987 Southam Literacy Survey found substantial differences in literacy skills between men and women (Calamai, 1987: 29-30). However, the findings of the Southam Literacy survey should not be compared with those presented here from the October 1989 Survey of Literacy Skills Used in Daily Activities. Definitions and measurement of literacy differ greatly between the two surveys. The Southam Literacy Survey presented various tests pertaining to literacy to a panel of 25 members,

asking them to indicate whether a functionally literate person should be able to answer them (Read and MacKay, 1988:20-22; Satin, Jones, Kelly and Montigny, 1990). The views of the panel then were used to construct a measure of "functional illiterates." In contrast, the Survey of Literacy Skills Used in Daily Activities derived levels of literacy from a series of tasks designed to separately measure reading, numeracy and writing skills with respect to activities commonly encountered in daily life in Canada (Satin, Jones, Kelly and Montigny, 1990).

II. Reading levels, foreign birth and gender

Although the total female and male populations aged 16-69 have similar distributions of reading and numeracy skills, such similarity may not exist for the foreign-born for several reasons. First, immigrants bring with them the imprint of their former societies. Gender differences in education may exist within the Canadian foreign-born population if in certain countries or regions of the world, males have higher educational attainment and literacy levels than females (United Nations, 1985). Second, since the early 1980s, academics, advocacy groups and government advisory boards have stressed that immigrant women experience greater difficulties than men in learning English or French (Boyd, 1990; Canadian Employment and Immigration Advisory Council; National Action Committee on Immigrant and Visible Minority Women, 1985) . If levels of English or French language knowledge are low, the ability to perform English or French reading proficiency tasks will be diminished.

Table 3 shows reading skill distributions for Canadian-born and foreign-born females and males. When looking at this table and others, it should be remembered that the 1989 Survey of Literacy Skills Used in Daily Activities measures literacy skills in one of Canada's two official languages, English or French (see Part I: Section 1.2). As a result, those who reported having no skills in either of the two official languages and therefore did not take the literacy skill tests are excluded from the results. The data do not indicate the literacy proficiency of <u>all</u> adult immigrants. Those who did not take the tests may -- or may not -- have high levels of reading proficiency in their own language.

The apparent similarity between men and women in literacy proficiency distributions is, in fact, true only for Canadian-born men and women (table 3). Compared with their male counterparts and the Canadian-born population, women who are born outside Canada have the highest percentage of limited reading proficiency in English or French (levels 1 and 2) and the lowest percentage of adults who can meet most reading demands (level 4). Nearly one-third (32%) of foreign-born women have extreme difficulty dealing with printed material or can use printed words only for limited purposes (levels 1 and 2) compared to over one-fifth (24%) foreign-born men and approximately one-tenth Canadian-born women and men. If comparisons are restricted to populations living in cities of 500,000 or more (where 70% of the adult foreign-born population in the survey lives), over one-third (35%) of foreign-born women are categorized as having limited reading skills.

People are not indifferent to their reading skills. Levels of satisfaction with reading and writing skills generally correspond to reading skill levels (table 4). For both females and males, highest satisfaction is expressed by persons who have the reading skills necessary to meet everyday needs (level 4) with percentages declining with decreasing levels of reading skills. Because of this association, groups which have higher percentages with limited reading skills generally have lower percentages indicating satisfaction. The percentage of adult Canadians

Table 3

Percentage distribution of adults aged 16-69 showing reading skill level by gender and Canadian-foreign birth(a)

	Female					Male				
	Population (Thousands)	Total	Levels 1 and 2	Level 3	Level 4	Population (Thousands)	Total	Levels 1 and 2	Level 3	Level 4
Total, Canada										
Canadian-born	7284	100%	11%	21%	68%	7238	100%	12%	23%	65%
Foreign-born	1603	100%	32%	27%	41%	1574	100%	24%	20%	56%
Residents of urban areas of 500,000 or more(b)										
Canadian-born	3108	100%	9%	21%	70%	3022	100%	10%	20%	70%
Foreign-born	1143	100%	35%	26%	39%	1094	100%	25%	17%	58%

Source: *Survey of Literacy Skills used in Daily Activities, Statistics Canada, 1989*
Note: *Excludes persons who reported having no skills in either of Canada's official languages*
(a) Excludes persons who did not indicate place of birth
(b) Excludes persons in Prince Edward Island in order to maintain confidentiality of respondents

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Table 4

Percentage distribution of adults aged 16-69 showing satisfaction with reading and writing ability by gender and level of reading skill

	Females				Males			
	Total	Levels 1 and 2	Level 3	Level 4	Total	Levels 1 and 2	Level 3	Level 4
Population (in thousands)	8868	1298	1978	5592	8733	1209	1994	5530
Satisfied with reading and writing skills(a)								
Percent	100%	100%	100%	100%	100%	100%	100%	100%
Yes	93%	76%	92%	97%	90%	71%	90%	95%
No	7%	24%	8%	3%	10%	29%	10%	5%

Source: *Survey of Literacy Skills used in Daily Activities, Statistics Canada, 1989.*
Note: *Excludes persons who reported having no skills in either of Canada's official languages.*
(a) The question was "All things considered, are you satisfied or dissatisfied with your reading and writing skills in English (French)?" Population size and percentages exclude the 0.3 percent of females and 0.9 percent of males who either had no opinion or did not state a response.

who say they are satisfied with their reading and writing abilities drops from 96% to 81% respectively for Canadian-born and foreign-born women and from 92% to 83% for Canadian-born and foreign-born men. Differences between the Canadian-born and the foreign-born are largest for persons with limited reading skills. Of those who are categorized as having levels 1 and 2 reading skills, satisfaction with reading skills is indicated by 87% versus 59% of Canadian-born and foreign-born females respectively and by 80% and 50% of Canadian and foreign-born males.

III. Schooling and language knowledge: implications for reading skills

Education generally means higher levels of reading proficiency. If immigrants in general, and migrant women in particular, had lower levels of education than the Canadian-born (or foreign-born men), this might explain the higher percentages of foreign-born females with limited reading skills. However, two facts suggest that educational differences at best offer only a partial explanation. First, at least for those persons who undertook the reading skill tests, a larger percentage of immigrants completed high school or more. Seventy-one percent of foreign born females have completed secondary schooling or higher as have 64% of Canadian-born females, 77% of foreign-born males and 71% of Canadian-born males.

Second, within two major categories of schooling (those with less than a secondary completion and those with secondary completion or more), a higher percentage of foreign-born women and men are categorized as having limited reading skills (levels 1 and 2) compared to their Canadian-born counterparts (table 5). At the same time, sizable gender differences in reading skills persist in the foreign-born population but not in the Canadian-born population. Among those who completed secondary schooling, 21% of the foreign-born women are categorized as having limited reading skills compared to 14% of foreign-born males, and 3% of Canadian-born women and men.

Language knowledge is another possible reason for gender and nativity differences in reading skills. Persons who have learned English or French recently may display lower levels of literacy because of limited knowledge of the language or because of unfamiliarity with items used in the skill tests (see Part I: Section 4.1.1).

Language first spoken is one indicator of familiarity with English or French. Immigrants whose mother tongue is a language other than French or English have higher percentages with very limited reading skills in English or French (table 5). Again, foreign-born females are most likely to experience these difficulties. Forty-two percent of foreign born females with a mother tongue other than English for French are categorized at levels 1 and 2, compared to 36% of their male counterparts.

The sample size of the 1989 Survey of Literacy Skills Used in Daily Activities limits an exhaustive analysis of factors underlying the greater percentages of immigrants in general, and foreign-born women in particular, at reading skill levels 1 and 2. English or French literacy proficiency reflects a number of factors including recency of arrival, English or French language ability, literacy proficiency in one's own language, level of schooling, work-related literacy requirements and literacy training opportunities. Because these factors often are interrelated, information from large numbers of foreign-born are necessary to determine accurately which combinations are the most important for English or French literacy skills.

Table 5

Percentage distribution of adults aged 16-69, showing reading skill levels by gender, Canadian-foreign birth, language first spoken and education

	Female					Male				
	Population (Thousands)	Total	Levels 1 and 2	Level 3	Level 4	Population (Thousands)	Total	Levels 1 and 2	Level 3	Level 4
Education(a)										
Canadian-born										
Less than secondary completion	2624	100%	26%	34%	40%	2823	100%	25%	35%	40%
Secondary completion or higher	4623	100%	3% (Q)	14%	84%	4363	100%	3%	16%	81%
Foreign-born										
Less than secondary completion	452	100%	54%	26%	20%	346	100%	60%	19%	20%
Secondary completion or higher	1085	100%	21%	29%	51%	1158	100%	14%	19%	68%
Language first spoken(b)										
Canadian-born										
English and/or French	6836	100%	11%	21%	68%	6756	100%	12%	23%	65%
Other	488	100%	14% (Q)	22% (Q)	63%	478	100%	13% (Q)	26%	61%
Foreign-born										
English and/or French	655	100%	15% (Q)	22%	63%	639	100%	(1)	22% (Q)	73%
Other	959	100%	42%	30%	28%	951	100%	36%	19%	45%

Source: Survey of Literacy Skills used in Daily Activities. Statistics Canada. 1989
Note: Excludes persons who reported having no skills in either of Canada's official languages
(1) The sampling variability associated with this estimate is too high to be released
(Q) Users are cautioned that the sampling variability associated with this estimate is high
(a) Excludes persons who did not respond to the education questions
(b) A few respondents indicated they first spoke more than one language in childhood. Because of these multiple responses, the sum of the population estimates for each language category will not necessarily equal the total population count

IV. Reading skills and labour market issues

Reading skills are associated with the use of printed material to obtain knowledge, process information and follow instructions. They are particularly important for participating in Canada's industrial economy. Such skills are required to perform many service oriented jobs, such as those in finance, business, education, and health. Reading skills also mean the ability of workers to train, retrain and adjust to shifts in the type of jobs available as the economy changes. Persons with low reading skills are doubly handicapped -- their employment prospects are restricted to jobs without high reading requirements, and they do not benefit from training and retraining programs which generally assume reading skills (Satin, Jones, Kelly and Montigny, 1990).

Table 6 shows that limited reading skills depress employment prospects. However, the employment of the foreign-born is less affected by limited reading skills. In terms of employment during the 12 months preceding the survey, over half (57%) of foreign-born women with reading skill levels 1 and 2 indicate they have worked at least a week compared to 33% of Canadian-born women. Similarly, for males with limited reading skills (levels 1 and 2), 77% of the foreign-born have worked one week or more compared to 65% of the Canadian-born. Because of these nativity differences in employment, the foreign-born are over-represented among those workers with limited reading skills in English or French. For example, foreign-born women represent 17% of women who indicate they worked for one week or more during the preceding 12 months. But among women with limited reading ability (levels 1 and 2) who have worked at least one week, over half (52%) are foreign-born. Foreign-born males represent 18% of males who worked one week or more, but they are 34% of workers who are categorized at reading skill levels 1 and 2.

Table 6

Percentage distribution of adults aged 16-69 showing employment of one or more weeks in the past twelve months by level of reading skill, gender and Canadian-foreign birth

	Female				Male			
	Total	Levels 1 and 2	Level 3	Level 4	Total	Levels 1 and 2	Level 3	Level 4
Total aged 16-69(a)								
Population (thousands)	8877	1314	1977	5586	8776	1246	1993	5537
Worked for 1 week or more during past 12 months(b)?								
Percent	100%	100%	100%	100%	100%	100%	100%	100%
Yes	71%	42%	62%	82%	89%	69%	87%	94%
No	29%	58%	38%	18%	11%	31%	13%	6%
Canadian-born								
Population (thousands)	7268	804	1538	4926	7201	869	1675	4657
Percent, Worked for one week or more(b)?	100%	100%	100%	100%	100%	100%	100%	100%
Yes	72%	33%	61%	82%	89%	65%	87%	94%
No	28%	67%	39%	18%	11%	35%	13%	6%
Foreign-born								
Population (thousands)	1603	506	437	660	1574	376	317	880
Percent, Worked for one week or more(b)?	100%	100%	100%	100%	100%	100%	100%	100%
Yes	69%	57%	64%	80%	88%	77%	86%	93%
No	31%	43%	36%	20%	12%	23%(Q)	(1)	7%(Q)

Source: Survey of Literacy Skills used in Daily Activities, Statistics Canada, 1989
Note: Excludes persons who reported having no skills in either of Canada's official languages
(1) The sampling variability associated with this estimate is too high to be released
(Q) Users are cautioned that the sampling variability associated with this estimate is high
(a) Includes persons who did not indicate place of birth
(b) Excludes persons who did not indicate weeks worked

Reading skills are closely associated with the type of occupations held. For women who worked one week or more, 38% of those with limited reading skills were employed in service occupations compared to 13% of those with level 4 reading skills (table 7). Another 26% of women with limited reading skills (levels 1 and 2) held jobs in occupations which consisted of farm, other primary occupations and a variety of "blue collar" employment, including occupations in processing and machining and textiles. Sixty-eight percent of men with limited reading skills also worked in "primary -- blue collar" occupations compared to 38% of men categorized as having level 4 reading skills (table 7).

Virtually all workers (called the employed population in Part I of this report) indicate that their reading skills are adequate for their current or most recent job. Of those persons who had worked one week or more in the past 12 months, 99% of Canadian-born women and 98% of Canadian-born men replied "yes" to a question asking if their reading skills were adequate for their current or last job. Ninety-three percent and 94% of the foreign-born women and men replied "yes" to this question. Such responses indicate matching between the reading skills of workers and the reading requirements of jobs. But they do not reveal limitations experienced as a result of reading skills. Table 8 shows that among the foreign-born who worked one week or more, 18% of females and 14% of males feel that their reading skills limit their job opportunities. Over one in ten (12%) of foreign-born women and men also believe their reading skills in English or French are not adequate for them in other areas of life (table 8). The percentages of the foreign-born indicating restrictions are higher than those observed for the native-born population, and they are consistent with the higher percentages of the foreign-born population who are categorized as having limited reading skills (table 3).

Table 7

Percentage distribution of adults aged 16-69 showing employment of one or more weeks in the past twelve months showing occupational characteristics by gender and reading skill level

	Females Reading skills				Males Reading skills			
	Total	Levels 1 and 2	Level 3	Level 4	Total	Levels 1 and 2	Level 3	Level 4
Occupation held	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Managerial, select white collar(a)	33%	17%(Q)	19%	38%	28%	8%(Q)	12%	36%
Sales, clerical	40%	19%(Q)	40%	42%	15%	(1)	16%	16%
Service	18%	38%	26%	13%	11%	18%	13%	10%
Other(b)	10%	26%	14%	7%	46%	68%	60%	38%

Source: *Survey of Literacy Skills used in Daily Activities, Statistics Canada, 1989.*
Note: *Excludes persons who reported having no skills in either of Canada's official languages.*
(1) The sampling variability associated with this estimate is too high to be released.
(Q) Users are cautioned that the sampling variability associated with this estimate is high.
(a) Includes managers and administrative occupations, life sciences, social sciences and religion, architects and engineers, teaching and related, health and artistic and recreational occupations.
(b) Includes farm and primary occupations, processing, machining and related, electrical and electronics, textiles, furs and leather, wood products, rubber, mechanics and repair, excavating and paving, other construction trades, transport equipment operators, material handling and other craft and equipment operating occupations.

Table 8

Percentage distribution by adults, aged 16-69, who have worked one week or more in the past twelve months, showing attitudes regarding reading skills by gender

	Do you feel your reading skills are limiting your job opportunities?				Do you feel your reading skills in English (French) are adequate for you in other areas of your life?			
	Population (thousands)	Total	Yes	No	Population (thousands)	Total	Yes	No
Total population(a)								
Females	6206	100%	7%	93%	6218	100%	96%	4%
Males	7616	100%	8%	92%	7655	100%	94%	6%
Canadian-born								
Females	5117	100%	4%	96%	5129	100%	97%	3%
Males	6285	100%	6%	94%	6311	100%	96%	4%
Foreign-born								
Females	1084	100%	18%	82%	1083	100%	88%	12%
Males	1331	100%	14%	86%	1344	100%	88%	12%

Source: *Survey of Literacy Skills used in Daily Activities, Statistics Canada, 1989.*
Note: *Excludes persons who reported having no skills in either of Canada's official languages.*
(a) Includes persons who did not indicate place of birth.

The 1989 Survey of Literacy Skills also asks about the adequacy of writing skills for the job and for job opportunities. In combination with the three questions on reading skills, these questions create a set of five questions on the consequences of reading and writing skills. Persons who indicate limitations through one or more of these questions (inadequate skills for job, job opportunities restricted, and so on) are then asked a series of questions about the usefulness of certain types of programs. This subgroup thus represents persons who feel that their reading or writing skills are problematic in some way. Table 9 shows that the percentage of workers who indicate limitations associated with reading or writing is highest among the employed population categorized in levels 1 and 2. Among persons working for one week or more, 12% of women and 16% of men indicate some restriction associated with reading or writing skills. These percentages increase to 45% and 42% for women and men who are categorized as having limited reading skills (levels 1 and 2).

Table 9

Percentage distribution of adults aged 16-69 who worked one week or more in the past twelve months, by gender and Canadian-foreign birth showing one or more types of limitations associated with reading or writing skills.

	Female				Male			
	Total	Levels 1 and 2	Level 3	Level 4	Total	Levels 1 and 2	Level 3	Level 4
Indicates at least one type of limitation								
Total (Population in thousands)(a)	6331	556	1220	4555	7791	854	1734	5203
Percent	100%	100%	100%	100%	100%	100%	100%	100%
Yes	12%	45%	15%	8%	16%	42%	20%	11%
None	88%	55%	85%	92%	84%	58%	80%	89%
Canadian-born (population in thousands)	5226	263	938	4025	6409	562	1461	4386
Percent	100%	100%	100%	100%	100%	100%	100%	100%
Yes	10%	27%	15%	8%	15%	34%	21%	11%
None	90%	73%	85%	92%	85%	66%	79%	89%
Foreign-born (population in thousands)	1099	290	280	530	1381	291	273	817
Percent	100%	100%	100%	100%	100%	100%	100%	100%
Yes	23%	61%	(1)	(1)	20%	58%	16%	8%(Q)
None	77%	39%	86%	92%	80%	42%	84%	92%

Source: *Survey of Literacy Skills used in Daily Activities, Statistics Canada, 1989.*
Note: *Excludes persons who reported having no skills in either of Canada's official languages.*
(1) The sampling variability associated with this estimate is too high to be released.
(Q) Users are cautioned that the sampling variability associated with this estimate is high.
(a) Includes persons who did not indicate place of birth.

The foreign-born population is more likely than the Canadian-born population to indicate at least one restriction associated with reading and writing skills. This is especially true among those who either have extreme difficulty in dealing with printed material or can use it only for very limited purposes such as finding a word in a text (levels 1 and 2). Of those with reading skills categorized as level 1 or 2, approximately 6 out of 10 in the foreign-born employed population indicate at least one type of restriction due to reading or writing skills. To a much greater extent than the Canadian-born, the foreign-born population either experiences and/or perceives difficulties associated with limited reading skills in English or French.

The subgroup of workers who perceives limitations associated with their reading and writing skills was asked which of four specified types of training might be useful. As shown in table 10, approximately six out of ten respondents indicated the usefulness of three programs which either teach job-related reading and writing skills, help with the continuation of formal education or provide specialized courses to help prepare for a specific job. A somewhat smaller percentage indicated the utility of a program that teaches everyday reading and writing skills. However, patterns regarding program usefulness also differ between the Canadian and foreign-born populations. Compared to the Canadian-born, a slightly lower percentage of foreign-born said programs which continue formal education or prepare for a specific job are useful. Instead, the foreign-born were more likely than the Canadian-born to indicate the usefulness of programs which teach job-related reading and writing skills or teach everyday reading and writing skills. Percentages for foreign-born women were especially high with 79% indicating the usefulness of a program teaching job-related reading and writing skills and 66% indicating the usefulness of a program to teach everyday reading and writing skills (table 10).

Table 10

Percentage distribution of adults aged 16-69 who worked one week or more in the past twelve months and indicated limitations of reading and/or writing skills showing responses(a) to questions on usefulness of programs by gender and Canadian-foreign birth

	Female			Male		
	Total (b)	Canadian-born	Foreign-born	Total (b)	Canadian-born	Foreign-born
Would the following types of training be useful to you?						
A) A program that teaches job-related reading and writing skills						
Population (in thousands)(a)	743	487	250	1146	898	248
Percent	100%	100%	100%	100%	100%	100%
Yes	59%	49%	79%	62%	61%	67%
No	41%	51%	(1)	38%	39%	33%(Q)
B) A program to help you continue with your formal education						
Population (in thousands)(a)	738	484	248	1146	898	248
Percent	100%	100%	100%	100%	100%	100%
Yes	61%	66%	51%	60%	61%	54%
No	39%	34%	49%	40%	39%	46%
C) Specialized courses that prepare you for a specific job						
Population (in thousands)(a)	743	487	250	1143	895	248
Percent	100%	100%	100%	100%	100%	100%
Yes	66%	68%	61%	63%	64%	60%
No	34%	32%	39%(Q)	37%	36%	40%(Q)
D) A program that teaches everyday reading and writing skills						
Population (in thousands)(a)	750	493	251	1159	902	256
Percent	100%	100%	100%	100%	100%	100%
Yes	48%	39%	66%	51%	49%	61%
No	52%	61%	34%	49%	51%	39%

Source: Survey of Literacy Skills used in Daily Activities, Statistics Canada, 1989
Note: Excludes persons who reported having no skills in either of Canada's official languages
(1) The sampling variability associated with this estimate is too high to be released
(Q) Users are cautioned that the sampling variability associated with this estimate is high
(a) Excludes persons who were asked the questions but did not state a response
(b) Includes persons who did not indicate a place of birth

In addition to being asked about the usefulness of four types of training, the subgroup of workers also was asked to indicate if the participant, the employer and/or the government should pay for these programs, with multiple answers permitted. Among all women, 34% said the participant should pay, 30% said the employer should pay and 62% indicated the government should pay. Comparable percentages for men were 42% (the participant), 27% (the employer) and 57% (the government). Support for funding from government was highest among the foreign born, with 68% of both foreign-born females and males indicating that the government should pay for such programs, compared to 54% and 58% of Canadian-born women and men.

V. Implications

Overall, literacy distributions are quite similar for the adult female and male populations who undertook English or French literacy tests. However, examining literacy levels for the total population hides important dissimilarities in literacy for foreign-born females and males. A higher percentage of foreign-born women -- close to one-third -- are categorized as having very limited reading skills compared to foreign-born males or to Canadian-born women and men. For the foreign-born population whose mother tongue is neither English nor French, over one in four foreign-born women and over one in three foreign-born men either have extreme difficulty in dealing with

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printed material or else can use printed words only for limited purposes. Satisfaction with reading skills generally corresponds to levels of reading skills. Overall, foreign-born women are the least likely to express satisfaction with their skills, followed by foreign-born males and the Canadian-born population.

Among those with lower reading skills, greater percentages of the foreign-born than Canadian-born worked at least one week during the year preceding the survey. However, foreign-born workers also were more likely to indicate that reading or writing skills have limited their job opportunities or are inadequate for other areas of their lives. Percentages indicating limitations are highest for those with limited reading skills. Well over half of the foreign born female and male workers categorized as having levels 1 and 2 reading skills felt their reading and writing skills limited them, compared to slightly more than one-fourth and one-third of the comparable Canadian-born workers.

Questions on the usefulness of various types of training show high levels of support for programs among those workers who indicated limitations from their reading and writing skills. Foreign-born women are especially likely to indicate the usefulness of programs that teach job-related reading and writing skills or that teach everyday reading and writing skills.

These findings have three implications for efforts to improve literacy in Canada. First, it clarifies which groups are likely to be assisted by literacy programs. Immigrants in general, and foreign-born women in particular, have higher percentages with limited reading skills than do the Canadian-born. Second, it indicates that many individuals are dissatisfied with their skills and experience limitations as a result of them. Many workers indicate the usefulness of specific types of literacy training. These expressions of dissatisfaction and support for training are highest among the foreign-born population and especially among immigrant women. Third, not only does a high percentage of workers with low reading levels see literacy training programs as useful, but also they are more likely to see such programs as being funded by government rather than by participants or employers.

Such responses which favour government funding do not preclude individual or employer financial support. Rather, they are consistent with the variety of existing literacy programs and funding arrangements in which provincial and federal governments play a major role (Menzie, 1988). What the responses do emphasize, however, is the existence of groups that might benefit from literacy efforts, that see literacy training as useful for themselves and that look to government as a source of funding.

The forms such training might take is a matter of considerable debate among target groups and practitioners (Calamai, 1987; Read and MacKay, 1988). Designed as a national survey to measure literacy levels in Canada, the 1989 Survey of Literacy Skills did not investigate the nature and effectiveness of various literacy training methods and programs. However, the findings of the survey are consistent with calls for a combination of program types and a flexible approach informed by user characteristics. Among those who have experienced limitations due to reading and writing skills, Canadian-born and foreign-born female and male workers vary in their assessment of which types of literacy programs are useful for them. As well, groups which do not have English or French mother tongues may benefit from a combination of language and literacy training rather than an enhancement of literacy skills alone. Variations in program type, informed by user characteristics may be especially important in meeting the literacy training needs of groups, such as foreign-born women, whose reading skills in English or French are limited.

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10. Literacy Programming and the Survey of Literacy Skills Used in Daily Activities

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It would seem natural, I think, that any survey of literacy skills in a population, such as the Survey of Literacy Skills Used in Daily Activities, would provide information of direct use to organizers and coordinators of literacy programs. Unfortunately, other than providing a slogan, "24% illiterate: a national problem", this seems not to have been the case in previous studies. In designing the LSUDA survey, we wanted to provide data of use to adult literacy practitioners. This chapter is an attempt to do just that.

In particular, I want to deal with matters of program design. Using responses to the questionnaire and the results of the test, this chapter is intended to report in a general way on what potential learners told us about what they might need and not need. Because we asked questions mostly about reading program needs, I will cover only that and will say nothing about numeracy and only a little about writing.

The results of the reading skill test that formed part of the LSUDA survey are discussed in detail in earlier sections of this publication. It is tempting to use those results as an indicator of the number of potential learners in adult literacy programs. Thus one might argue that literacy programs need to be provided for some 16% of the adult population because that many are at the lowest two reading skill levels. I want to argue for some caution.

All respondents to the test were asked whether they thought their reading skills were adequate for daily living[1]. As table 1 shows, most Canadians feel that their skills are adequate, though those at lower reading levels were much more doubtful than those at the top.

Some people express surprise and concern when they discover that only about 5% of the respondents felt their skills to be inadequate since some 7% of the respondents were at level 1 and 9% at level 2. It should be kept in mind that the test does not measure self-judged adequacy, but only the level of skill. Adequacy is the match of that skill to need and if someone only needs level 2 skills, then they are unlikely to judge level 2 skills inadequate. In support of the validity of the test, of course, is that those at level 1 are much more likely to express inadequacy than those at level 3 or level 4. What it does mean is that use of the reading level results to forecast program demand are very much likely to overestimate the real demand, because demand is largely based on an individual's sense of need.

Because these observations point to the importance of bringing self-assessments into the picture, it is worth spending a bit more time looking at some of the other ways we asked respondents to judge their own reading and writing skills. One of the questions asked respondents to rate their skills on a five-point scale[2]. As table 2 indicates, their ratings, while not exactly matching the test results, parallel them. While we cannot be sure that all respondents used the same criteria, the pattern of results suggests some commonality among the respondents and some commonality with the direct test.

It is interesting that a number of respondents who rated their skills as poor, nonetheless reported that they were adequate (table 3).

Table 1

Self-reported adequacy of reading skills for daily activities

	Reading skill level				
	Level 1	Level 2	Level 3	Level 4	Total
Are your reading skills adequate for daily living?					
Yes	62%	89%	95%	98%	95%
No	38%	11%	5%	2%	5%

Source: *Survey of Literacy Skills used in Daily Activities, Statistics Canada, 1989*
Note: *Excludes persons who reported having no skills in either of Canada's official languages*

Table 2

Self-ratings of reading and writing skills

	Reading skill level				
	Level 1	Level 2	Level 3	Level 4	Total
Rate your reading and writing skills in English					
1 (Poor)	32%	(1)	(1)	(1)	2%
2	18%	12%	4%	2%	4%
3	28%	39%	33%	17%	23%
4	16%	27%	38%	45%	40%
5 (Excellent)	(1)	18%	24%	37%	31%

Source: Survey of Literacy Skills used in Daily Activities, Statistics Canada, 1989
Note: Excludes persons who reported having no skills in either of Canada's official languages.
(1) The sampling variability associated with this estimate is too high for the estimate to be released.

Table 3

Self-reported adequacy of reading skills and self-rating of reading and writing skills

	Self-rating of reading and writing skills					
	Poor 1	2	3	4	Excellent 5	Total
Are your reading skills adequate for daily living?						
Yes	25%(Q)	64%	92%	99%	99%	95%
No	75%	36%	9%	(1)	(1)	5%

Source: Survey of Literacy Skills used in Daily Activities, Statistics Canada, 1989
Note: Excludes persons who reported having no skills in either of Canada's official languages.
(1) The sampling variability associated with this estimate is too high for the estimate to be released.
(Q) Users are cautioned that the variability associated with this estimate is high.

A third set of self-assessment questions also sheds some light on this issue. Respondents were asked to report how satisfied they were with their skills[3]. Those at lower reading skill levels were less likely to be satisfied with their skills than those at higher levels (table 4). However, when asked to qualify their satisfaction, level 1 respondents were more likely to say they were only "somewhat satisfied" (63%) than were those at higher levels (41%, 32%, and 21%). On the other hand, those at level 1 who were dissatisfied were more likely to qualify their dissatisfaction as "very" (61%) than were those at higher levels (28%, 25%, 13%).

Respondents who had worked in the last 12 months were asked questions about the adequacy of their skills for employment. Not surprisingly, only 2% of all respondents felt they were inadequate for their current job[4], but, as table 5 shows, those at lower reading skill levels were more likely to report difficulties. Most workers are, of course, reasonably skilled at the job they do and these results are what we would expect. But again, they pose problems for advocates of workplace literacy programs, because they do not show a large demand by workers for literacy training connected to their work. On the other hand, there is evidence that more workers may feel that their skills would not allow them to improve their job or find a new one. When asked about this, 8% of all respondents who were in the labour force felt their reading skills would limit their job opportunities, with more of those at lower levels (table 6) saying they had some problems. Indeed, at level 1, a majority feel that their skills limit their opportunities. These job literacy findings accord with those of the Conference Board study of employers' views of literacy (DesLauriers, 1990). The Conference Board found few reports of employees whose skills were inadequate for the job they now held, but much concern in human resource departments of companies about whether the literacy skills of their employees were adequate for job training and job upgrading. The complementary findings of both studies suggest that the focus for workplace literacy ought to be on upgrading, and not on training related to the employee's current job.

Table 4

Satisfaction with reading and writing skills

	Reading skill level				
	Level 1	Level 2	Level 3	Level 4	Total
Are you satisfied or dissatisfied with your reading and writing skills?					
Satisfied	57%	82%	91%	96%	92%
Dissatisfied	43%	18%	9%	4%	8%

Source: *Survey of Literacy Skills used in Daily Activities, Statistics Canada, 1989*
Note: *Excludes persons who reported having no skills in either of Canada's official languages*

Table 5

Self-reported adequacy of reading skills for job

	Reading skill level				
	Level 1	Level 2	Level 3	Level 4	Total
Are your reading skills adequate for your job?					
Yes	76%	93%	98%	98%	98%
No/Don't Know	24%(Q)	8%(Q)	(!)	(!)	2%

Source: *Survey of Literacy Skills used in Daily Activities, Statistics Canada, 1989*
Note: *Excludes persons who reported having no skills in either of Canada's official languages*
(!) The sampling variability associated with this estimate is too high for the estimate to be released
(Q) Users are cautioned that the variability associated with this estimate is high

Table 6

Self-reported limitation of reading skills for job opportunities

	Reading skill level				
	Level 1	Level 2	Level 3	Level 4	Total
Do you feel your reading skills are limiting your job opportunities?					
Yes	55%	24%	9%	3%	8%
No/Don't Know	45%	76%	91%	97%	92%

Source: *Survey of Literacy Skills used in Daily Activities, Statistics Canada, 1989*
Note: *Excludes persons who reported having no skills in either of Canada's official languages*

Results such as these raise interesting dilemmas for policy developers and literacy practitioners. How is one to react to people whose skills are low on a direct test, who assess their skills as poor, yet who say they are satisfied with their skills and find them adequate for daily activities? Should we engage in publicity exercises to convince those with poor skills that they should find them inadequate? If so, such an exercise needs to be handled with care, because it can, as several already have, serve only to stigmatize those with lower levels of skill.

Lest we be discouraged by this, it should be pointed out that many of those with low levels did express an interest in improving their literacy skills and it is worth looking at what their preferences were. In the LSUDA survey, respondents who indicated that their skills were less than adequate were then asked two types of questions about what kinds of programs might interest them. One asked them their preference for a teacher (table 7). There is a notable difference in preferences between those in the labour force and others. The lower preference for a literacy program is likely a result of several factors. In many provinces, such as British Columbia, most of the literacy programming in 1989 was in community colleges and so that is the only choice for many Canadians. Secondly, schools and community colleges are likely to appeal to those at higher levels, because community literacy programs seldom offer advanced courses (61% of those at level 4 preferred school or community college). Indeed, to the extent that they present themselves as literacy programs, these community programs are likely to be perceived as inappropriate by many learners who do not regard themselves as illiterate. The LSUDA questions only scratch the surface of program preference, but they do clearly raise this as an issue that literacy programs need to explore in their own community.

Table 7

Instructor preference

	In Labour Force	Not in Labour Force
Which type of instructor would you prefer?		
Volunteer or tutor from a literacy program	20%	(1)
Teacher from a school or college	53%	24%(Q)
Friend or member of family	9%(Q)	32%(Q)
No preference	18%	27%(Q)

Source: *Survey of Literacy Skills used in Daily Activities, Statistics Canada, 1989*
Note: *Excludes persons who reported having no skills in either of Canada's official languages*
(1) The sampling variability associated with this estimate is too high for the estimate to be released
(Q) Users are cautioned that the variability associated with this estimate is high

A second kind of program preference question asked of respondents with self-identified inadequacies, concerned the content of the program, both as to general purpose and to specific type of topic. For example, those who had worked in the last 12 months were asked whether a program that taught job-related reading and writing skills would be personally useful. As table 8 indicates, about 60% of those who expressed a preference said such a program would be useful. However, a larger proportion of those at lower literacy levels expressed interest in such a program. All respondents were asked whether a program designed to continue formal education would be useful. Again, about 60% of the respondents said it would. But here (table 9) those at the level 1 were less likely to think it useful than those at higher levels. It might well be those at level 1 have had such little success with school and may be so far from any possible completion that this is a less attractive option. Those at level 2, with the largest proportion expressing support for formal education, may be thinking that their skills are such that they could conceivably complete a more formal program. It is also noteworthy that those at level 1 were less likely than those at other levels to prefer an instructor from a formal education setting.

Table 8

Usefulness of a job-related literacy program

	Reading skill level				
	Level 1	Level 2	Level 3	Level 4	Total
Would a program that teaches job-related reading and writing skills be useful?					
Yes	74%	62%	66%	54%	61%
No	26%(Q)	38%	34%	46%	39%

Source: *Survey of Literacy Skills used in Daily Activities, Statistics Canada, 1989*
Note: *Excludes persons who reported having no skills in either of Canada's official languages*
(Q) Users are cautioned that the variability associated with this estimate is high

Table 9

Usefulness of a formal education related program

	Reading skill level				
	Level 1	Level 2	Level 3	Level 4	Total
Would a program designed to help you continue your formal education be useful?					
Yes	51%	65%	62%	60%	60%
No	49%	35%	38%	40%	40%

Source: *Survey of Literacy Skills used in Daily Activities. Statistics Canada. 1989*
Note: *Excludes persons who reported having no skills in either of Canada's official languages*

Table 10

Usefulness of a job-specific program

	Reading skill level				
	Level 1	Level 2	Level 3	Level 4	Total
Would a program designed to help you learn a specific job be useful?					
Yes	59%	59%	69%	67%	65%
No	41%	41%	31%	33%	35%

Source: *Survey of Literacy Skills used in Daily Activities. Statistics Canada. 1989*
Note: *Excludes persons who reported having no skills in either of Canada's official languages*

Table 11

Usefulness of an everyday skills program

	Reading skill level				
	Level 1	Level 2	Level 3	Level 4	Total
Would a program designed to help you learn everyday reading and writing skills be useful?					
Yes	69%	62%	52%	39%	51%
No	31%	38%	48%	61%	49%

Source: *Survey of Literacy Skills used in Daily Activities. Statistics Canada. 1989*
Note: *Excludes persons who reported having no skills in either of Canada's official languages*

Other program types suggested to all respondents included one that would prepare someone for a specific job (table 10) and one that taught everyday reading and writing skills (table 11). That there is stronger support for job-specific programs at higher levels of literacy and stronger support for everyday literacy at lower levels undoubtedly reflects the differing needs and abilities of potential learners at different levels. Those at lower levels may feel that they need to acquire broad-based skills before they can undertake specific skill training, while those at higher levels may decide, correctly, that they already have the broad base.

On a general policy level, these results suggest the need for a variety of programs. While almost every suggested model received overall majority support, the support by level differed from model to model. These results also lend support to the position that literacy is a complex, many-faceted skill, that development of literacy skills is not uniform and that learners have different needs at different stages in their literacy "careers".

Table 12

Percentage indicating that they would find the kind of training useful

	Reading skill level				
	Level 1	Level 2	Level 3	Level 4	Total
Would the following types of training help you deal with daily activities?					
Read instructions on packaged goods	63%	40%	33%	(1)	37%
Read business and government forms	59%	59%	69%	48%	58%
Read newspapers, magazines, and books	68%	47%	40%	19%(Q)	43%
Write letters, notes	69%	67%	67%	61%	66%

Source: *Survey of Literacy Skills used in Daily Activities, Statistics Canada, 1989*
Note: *Excludes persons who reported having no skills in either of Canada's official languages*
(1) The sampling variability associated with this estimate is too high for the estimate to be released
(Q) Users are cautioned that the variability associated with this estimate is high

The final set of questions about program preferences inquired about topics. Those who said they would find a program dealing with everyday skills useful, were then asked to indicate the topics they would like to see covered (table 12). It is important to note that writing received the widest support, not only overall but at each level. Literacy programs have only just begun to explore writing, many only as a means of improving reading skills. These data suggest that writing in and of itself is a matter of concern to all Canadians. The responses to the other topics are predictable from the skill level. Those at higher levels probably already read instructions and newspapers well and thus express less interest in these topics than in forms, which continue to present problems even to good readers.

In all, the responses to these self-reflection questions about literacy, about ability, need, and preferences, point to the need for literacy programs to meet complex demands by the learners. Some require help meeting everyday literacy needs, others are ready for more complex job-specific reading. A large number seem to be interested in writing. Because the primary purpose of the LSUDA project was the measurement of literacy skills, these supplementary questions only begin to explore issues of program design. Literacy practitioners now have a beginning context for working out in greater detail, in their own community, questions of need and provision.

Reference

DesLauriers, R. C. (1990). *The impact of employee literacy on Canadian business*. (Report 58-90-E). Ottawa: Human Resource Development Centre, The Conference Board of Canada.

Footnotes

1. Not all respondents were asked exactly the same question. Those who were working or looking for work were first asked questions about the adequacy of their reading skills for doing or finding a job and then were asked:

   > Do you feel your reading skills are adequate for you in other areas of your life?

   Those who were not working or looking for work were not asked any questions about occupational reading. The only question they were asked was:

   > Do you feel your reading skills are adequate for you in your daily life?

   It is possible that respondents used a different frame of reference to answer these two questions, but they seem reasonably close, given the context.

2. The question, asked of all respondents, was:

   > On a scale of 1 to 5, 1 being poor and 5 being excellent, how would you rate your reading and writing skills in English?

3. The question was:

   > All things considered, are you satisfied or dissatisfied with your reading and writing skills in English?

   Respondents were then asked to qualify their description:

   > Is that somewhat or very?

4. After a question about their current or most recent job, respondents were asked

   > Do you feel your reading skills are/were adequate for this job?

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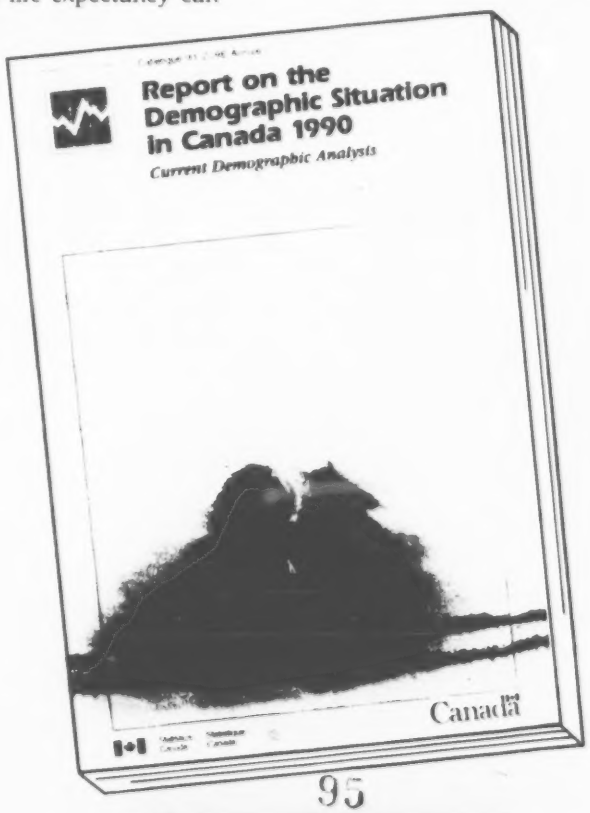

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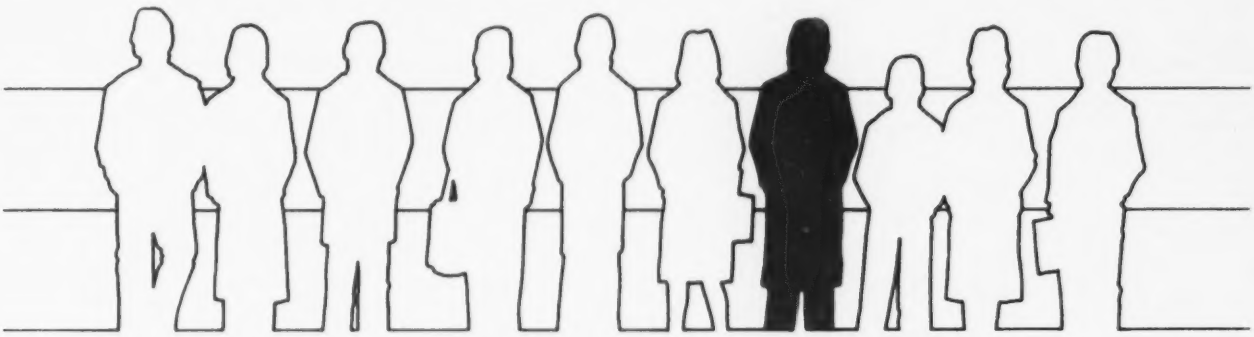

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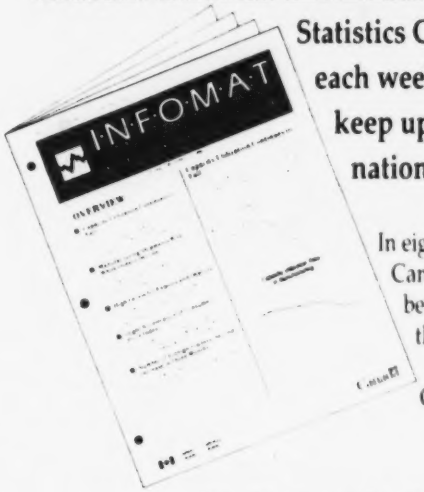

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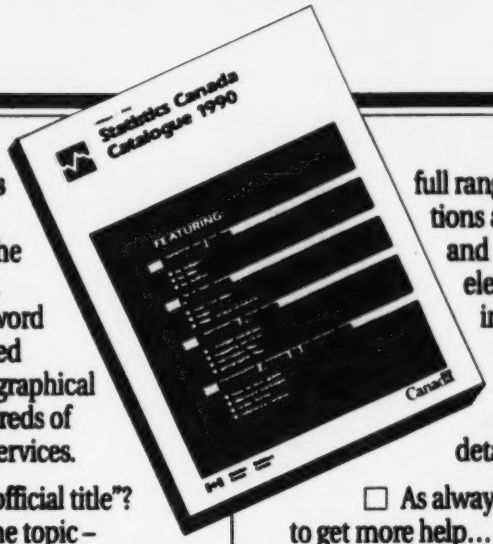

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